The Analysts Journal

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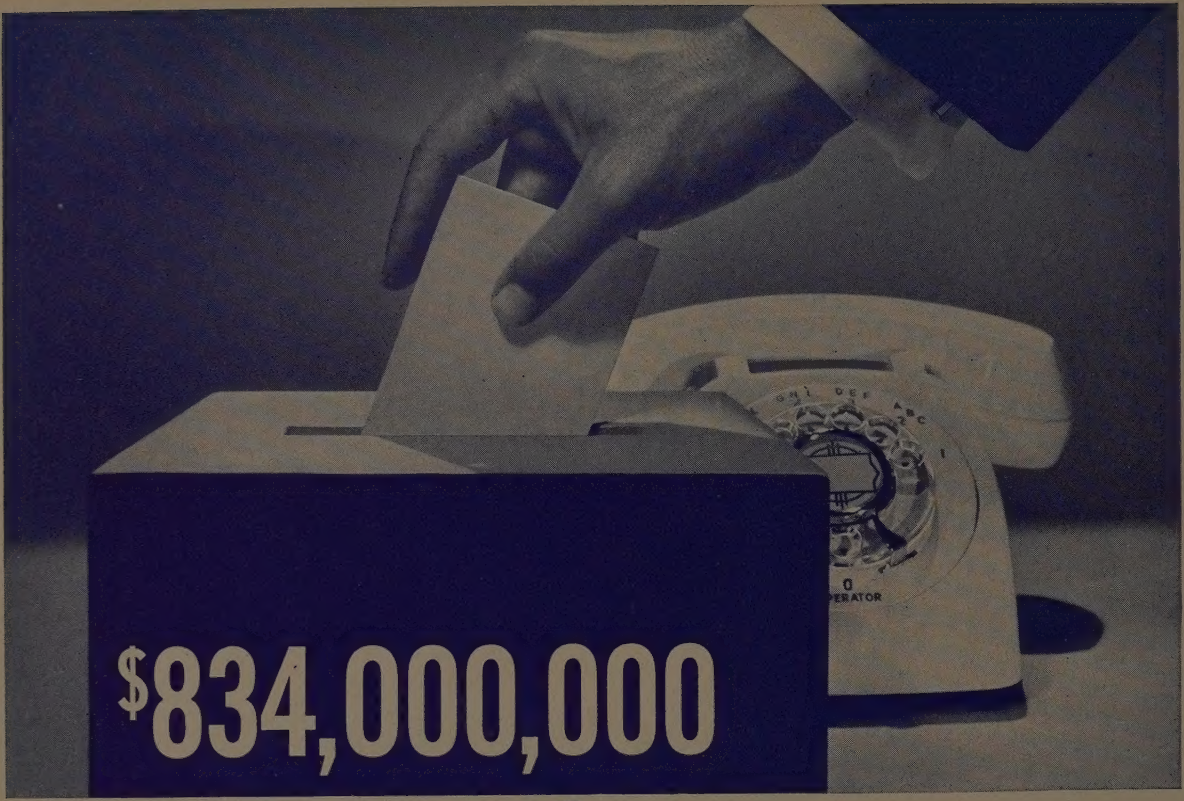

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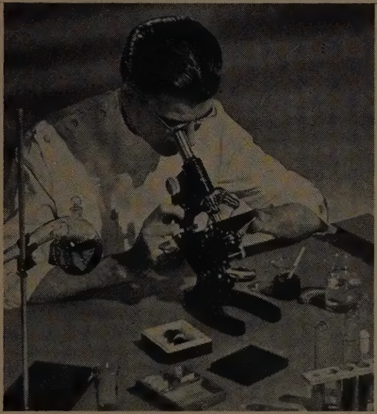

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The Bible of 'Wall Street, U. S. A.'

With this issue of *The Analysts Journal* the publication finishes its fourteenth successful year.

During these past fourteen years the influence and prestige of *The Journal* have grown in direct proportion to the influence and prestige of the analysts themselves. Fortune magazine (Jan. '57) has said:

> Time was when the investment banker was the undisputed king of Wall Street. Today the security analyst may wield greater influence. . . . To a large degree their influence reflects the postwar growth of pension funds, mutual funds, personal trusts and other financial institutions.

In addition, the dean of Harvard University's Graduate School of Business singled out *The Analysts Journal* as one of four publications essential to the intelligent understanding, by the average businessman, of present-day economic forces.

This is high praise. And with all due modesty the security analysts may retort: Amen. But, in concurring, we know that it still takes "a lot of running to stay in the same place." In other words, the type of articles published by our National Federation must continue to maintain top editorial excellence, both as to content and as to method of presentation.

Our files are replete with complimentary letters, praising the authors individually, and *The Journal* in general. Other letters cite the national success of *The Journal,* and indicate that it should spread its wings and become international. Dr. Erwin Rothansl, writing from Austria, says: "Perhaps in several years from now a contact between your Federation and a similar group in Europe will be possible." Possibly, Doctor. We at least hope so.

The point now is that *The Analysts Journal* is widely recognized in the United States—and far beyond our shores—as *the only* authoritative publication in its field.

We like this type of recognition; and we're most anxious to maintain our already high editorial standards.

To that end we need new authors, preferably members of analyst societies in the smaller cities, for we try to avoid undue concentration of intellectual efforts within the larger societies. But, at the same time, we do seek repeat articles, regardless of region, by those authors whose names are already familiar by reason of their outstanding ability to fashion complicated economic ideas into concise language intelligible to all our readers.

It is to the eternal credit of all our authors that *The Analysts Journal* may justly be referred to as the Bible of (thanks to you, Donald Rogers of the New York Herald-Tribune) "Wall Street, U.S.A."

And as we aim to maintain our high editorial standards, both as to content of articles and as to the method of presentation, it is inescapable that there will be an occasional disappointment on the part of a potential author; i.e., when the Editorial Advisory Committee rejects an article. We envision such occasions as rare. However, it is an "occupational hazard" of the writing analyst; and we hope that such a rejection will not dampen the prospective author's spirit to the point where he'll not try again.

If we may assume that "what is past is prologue," *The Analysts Journal's* next fourteen years should encompass even greater acclaim.

The Analysts Journal is published five times a year, in February, May, June, August, and November, by The National Federation of Financial Analysts Societies, a nonprofit voluntary association devoted to the interests of those engaged in investment management and, more specifically, in the profession of security analysis. Publication office: 82 Beaver Street, New York 5, N. Y. Second class postage paid at New York, N. Y. Indexed in the Business Periodicals Index.

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PROGRESS AT YOUR SERVICE
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Lockheed Management answers your questions about:

Lockheed's Nuclear Work

1. How many nuclear programs are active at Lockheed?

More than you perhaps realize: research leading to development of the atomic airplane... design of nuclear reactors for industry and colleges...test facilities for government agencies and private firms...basic research on nuclear energy for space travel...uses of radioisotopes for industry, medicine, and agriculture. Lockheed is deeply involved in these and more in its laboratories and factories in California and Georgia.

2. What is the extent of Lockheed's nuclear facilities?

This fall our Georgia Division's Lockheed Nuclear Products Branch began operating for the Air Force the $14 million atomic research center on a 10,000-acre Blue Ridge Mountain tract in Georgia. This is America's only facility of its kind for testing large components, systems, and quantities of material.

We shall use it primarily for testing radiation effects in developing Air Force nuclear powered aircraft. But it also will be available to other government agencies and private industry. Lockheed's Nuclear Products Branch will conduct studies in application of radioisotopes, design devices to preserve and protect food, build research and training reactors, and devise the electronic equipment of the future for use in a radioactive environment.

Application of atomic energy to space travel is one of the lines of deep research that Lockheed's Missile System Division is conducting at its Palo Alto and Sunnyvale laboratories. New understanding of nuclear energy, its effects and uses, is coming out of basic research on the behavior of nuclear particles, particularly under magnetic influence—and from advanced experiments conducted with one of the nation's newest type 3,000,000 volt Van de Graaff positive-ion accelerators.

3. How long has Lockheed been active in nuclear work?

Some eight years ago Lockheed began secret work under an Air Force contract on problems basic to designing a nuclear powered aircraft. From this work have come specific design proposals for high and low altitude bombers, long range transports, shielding devices, and other aviation applications. For the past three years Lockheed has been one of two U.S. companies carrying on nuclear aircraft development work for the Air Force.

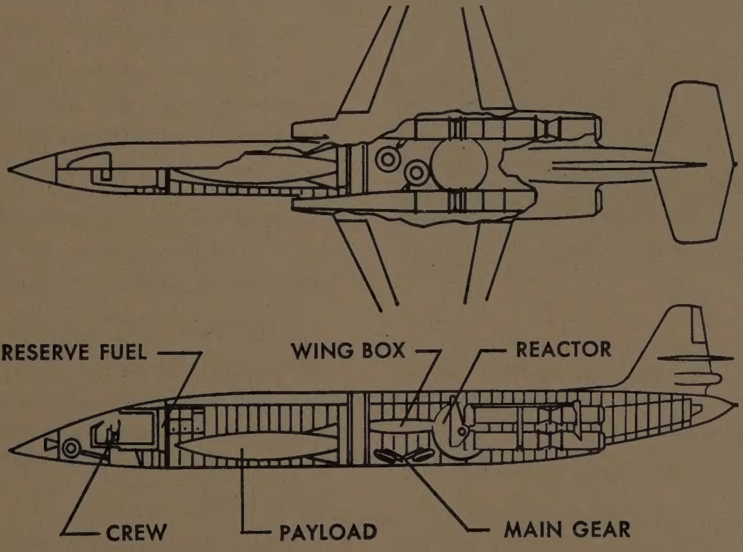
4. What will be the military mission of Lockheed's atomic powered airplane?

Lockheed's nuclear aircraft will be able to fly thousands of miles farther than present-day planes without refueling. Their almost limitless endurance will make them valuable for such military missions as: 1) long range retaliatory bombing to destroy an aggressor's prime home targets without use of overseas bases, 2) reconnaissance 24 hours a day over any area of the world, and 3) fast transportation of men and material over vast distances in quantities never before possible to fight local wars or prevent conflicts—without depending upon fuel supply depots in combat zones.

5. What is the future for commercial atomic planes?
Experience gained in designing and flying nuclear military planes will pave the way for atomic cargo transports—and, hopefully, achieve an important low cost-per-ton-mile breakthrough for airfreight. Ultimately, after certain major problems are solved, long range nuclear powered passenger transports probably will come. In these spacious luxury airliners of the future, travelers could fly from any city in the world to any other city, nonstop, with routine ease.

6. What is Lockheed's future in nuclear energy?
Unlimited. Lockheed's experience and outstanding facilities for nuclear research and development already have made it a leader in this important field. One most promising prospect is the development of thermal or boiling water reactors for producing industrial process heat. This is of great interest to the world's pulp and paper manufacturers and to other users of large amounts of heat—chemical processes, petroleum refining, textiles, plastics, salt water conversion, etc. Food and water irradiation offers big opportunities.

Lockheed is confident that a sizable share of its revenues in nuclear energy will come from areas of the world where there is a shortage of fossil fuels—coal and oil and gas—particularly in countries where nuclear power and heat could open remote, uncivilized areas rich in minerals, timber, and other resources. In the years ahead the market for nuclear energy should develop on a broad scale, with benefits to fuel-short nations that will enrich their economy and provide jobs, better pay, and higher health standards for millions of their people.



Inboard profile of a possible nuclear bomber. This design of 4-engine aircraft calls for close proximity of engines to reactor—and mounting of engines, one above the other, in pairs on opposite sides of the fuselage.

LOCKHEED *means leadership*

One of a series of messages addressed to the financial community of America

Good earnings for the telephone company have a way of being good for the customer, too

Everybody has problems. One of ours is the rather widespread belief that the sure way to low telephone rates is to keep the company's earnings as low as possible.

Attractive as this may seem at the moment, it has distinct hazards for the telephone user. Handcuffing the company limits progress and long-range economies, and will lead to poorer service at a higher price than the customer would otherwise have to pay.

This fact is receiving increasing recognition by the commissions which regulate telephone rates and earnings. But it is not something that concerns the commissions alone. It needs your understanding, too.

Regulation can only work best in the interest of all when it is free to act in the interest of all on the basis of economic facts.

Authorizing good earnings for the telephone company requires wisdom and foresight and sometimes calls for a high degree of political courage. Such action, however, in the long run will return the greatest value to the public.

Fortunately, from the standpoint of the individual telephone user, our increased rate needs, where required, are small. They usually come to not more than a few cents a day on the average customer's bill.

BELL TELEPHONE SYSTEM

Auditing Reuther's Economic Ideas

"....it is difficult to audit an eel."

MERRYLE STANLEY RUKEYSER

THE EMOTIONAL APPROACH to complex economic problems leads to bizarre marshes. In an effort to make unsound procedures, dictated by pressure groups, on the one hand, and vote-hungry politicos, on the other, government and the central banking system undertake to keep the national economy going through inflationary adjustments. Inflation is seductively employed as a device which enables people to undertake for a time to run simultaneously in opposite directions.

Walter P. Reuther, a social philosopher who heads the Auto Workers Union, styles himself as a public benefactor. But in the 1957-58 recession, when the public was in a mood to postpone new automobile purchases, it appeared that his claim to power was invalid. To an extent Reuther was self deluded by the Chanticleer complex. Like the rooster in Rostand's play, who crowed before the sun rose and assumed that the crowing caused the sun to rise, Reuther assumed that his social ideas and economic formulae were basic causes of the prolonged post-World War II rise in popular levels of material well-being in the United States.

For all of his intellectual shortcomings, Reuther through the years, in the campaign for men's minds and hearts, outsmarted the public relations and industrial relations counsellors of the great automobile industry.

But maybe management was unstrategic in trying to beat Reuther and his cohorts in the battle of semantics at which he excelled. Possibly a new and fresher approach to testing the validity of Reuther's credo would be more enlightening.

PHILOSOPHY OF MANAGEMENT VIEWED

Security analysts, in evaluating the current and prospective investment worth of stocks and bonds, won't accept at face value the self-serving interpretation of a corporation as revealed in its internal prospectus and in the published remarks of its executives and their press agents. Instead the analyst looks at the objective record and tries to rate management in relation to how its performance compares with that of competitors. The analyst weighs not only seasoning and past performance, but also the philosophy of management as it faces a dynamic world in flux. Appraisers of corporation values, place increasing importance on management attitudes toward research and new product exploration. Analysts try to make a judgment concerning management's proclivity for innovation in an expanding economy—its capacity to make present judgments about future trends.

Accumulators of savings have learned that such analytical judgments are more trustworthy than hunches or mere emotional impulses.

Interpretations of Reuther's impact on coming events should be based on similar scientific efforts to separate reality from ballyhoo. It is not enough in a partisan manner to characterize Reuther as a social hero, on the one hand, or as a bum, on the other.

Recently at the press preview in Miami Beach, L. L. Colbert, president of the Chrysler Corporation, paid homage to the importance of Reuther's maneuverings. After predicting that 1959 models of the automobile industry would outsell the 1958 line by 30%, Colbert made this significant qualifying remark: "All bets on the year are off if U.A.W. (Reuther's union) decides to act in such a way as to neutralize the stimulus of the industry's new models."

UNECONOMIC COST STRUCTURE FEARED

Behind this cryptic observation was doubtless management's concern lest the impact of the new industry pageantry of improved automobile models, at fair prices, would be blunted if Reuther succeeded in advancing auto wage rates more rapidly than productivity per man-tool hour improved. Colbert's implication was that resultant excessive selling prices would freeze last season's reluctance to replace old cars with new models. The executive was fearful that a dictated and uneconomic cost structure would cause the public to continue to disobey the law of obsolescence through stretching out the customary period of the life of old cars.

At the collective bargaining table there is a clash of judgments. Each side, if competent, tries to stay within the framework of what it believes will be acceptable to the final arbiters in the economic struggle—the customers—under the type of economic climate which is expected.

In analyzing Reuther's capacity to think prudently, it is not enough to tar him with Marxian and other epithets. It is more constructive to put his ideas on the table and dissect them fairly in light of past experience.

Right after the end of World War II, Reuther found himself in ideological conflict with management as to the cost sheet and pricing policy of the automobile industry. Reuther proposed that, in face of advancing costs, the industry should undertake to hold the line on selling prices.

His basic recommendation was rejected by management. And the leading companies, right up to the time of the recession, showed golden years of earnings. It will be recalled that during the strike of 1945-46 Reuther stated that wages could be increased without increasing selling prices. To be specific, if the General Motors Corporation in the eleven years (1947 through 1957) had followed Reuther's philosophy, it would have lost its corporate shirt. Instead of showing the record-breaking profits that it actu-

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Merryle Stanley Rukeyser's column on finance and economics has been syndicated from coast-to-coast for more than 30 years. He is the author of six books about investments.

ally earned, the corporation, if it had frozen its selling prices, would have shown a loss amounting to an aggregate of $7,733,903,864. In addition, Uncle Sam, with its tax claim on profits, would have been deprived in that period of revenues totalling $8,939,780,446.

If General Motors had operated on the Reuther formula, it would have lost its net worth and would have joined the automotive junk heap of such once memorable companies as Pierce Arrow, Jordan, Peerless, Reo, Haines and scores of others who also ran, but lost out in the struggle for survival.

In the accompanying statistical charts, the precepts of Reutherism are tested against General Motors figures. Obviously, Ford, Chrysler, American Motors, and Studebaker would, to say the least, have found such operating proposals equally ruinous.

In light of the fiat power, or nuisance value which Congress conferred on Reuther and his union confreres through national industrial relations provisions, it is not enough to dismiss Reuther's ideas as fallacious. It seems more effective to subject them to a mercilessly fair and impartial audit.

The economic studies of the consequences of Reuther's business recommendations are related to adjusted General Motors figures.

In his testimony before the Senate Subcommittee on Antitrust and Monopoly on January 29, 1958, Reuther said in part:

"Here is a chart that is based upon a projection of what would have happened if in January 1947 a person with some money available bought a hundred and three shares of General Motors stock—I mean a thousand and three shares of General Motors stock at a cost roughly of $52,000.

"Now, we use that figure because in that year $52,000 worth of General Motors stock got in dividends the same amount of money that a worker got if he worked the whole year.

"In other words, $52,000 invested in GM stock in that year brought the owner of that stock the same return as a worker got if he worked the full year.

"Now many workers did not but we made it as if he worked the full year.

"Then we show what happened to the earnings of the worker in the next ten years. The lower bar shows the upward movement of his equity out of wages, what he got in ten years working for the General Motors Corporation. The broken line shows what the stockholder who started at an even point in terms of earnings with the worker in '47, what he got.

"Here is what it amounts to in figures:

"A worker in those ten years in General Motors would have made $46,000 if he had worked a full year. This is not a true reflection, but we project it as though he had worked each year fully.

"A General Motors stockholder, the same stockholder who bought the $52,000 worth of stock in those ten years, he got $96,000 in dividends, but a capital gain because of a three-times' stock split of $189,000; and if he had sold his stock in September of 1957, his income for that period in dividends and capital gain was $284,000, compared to $46,000 that a worker made.

"Now, if you broke this thing down, a $9,000 investment in GM stock in 1947 in January would have brought to a person who invested $9,000 in the General Motors Corporation the same economic return that a worker got for ten years of work.

"In other words, a worker was worth $10,000 roughly in General Motors—less than $10,000; $9,000—and I say

Table I

WHAT LABOR REALLY GOT IN THE POST-WAR PERIOD

Year	Payrolls	No. of Employees	Average Income per Employee	Additional Number of Employees	Labor Income to Additional Employees Which the Stockholders Made Possible	Total Unit Sales	Additional Unit Sales
	(1)	(1)	(2)	(3)	(4)	(1)	(5)
1947	$1,174,980,654	387,303	$3,034	....	....	1,992,371	....
1948	1,305,489,590	392,107	3,329	4,804	$ 15,992,516	2,220,993	228,622
1949	1,472,087,750	426,137	3,454	38,834	134,132,636	2,896,348	903,977
1950	1,843,342,263	495,627	3,719	108,324	402,856,956	3,992,298	1,999,927
1951	1,905,691,399	501,812	3,798	114,509	434,905,182	3,197,134	1,204,763
1952	2,062,103,065	490,749	4,202	103,446	434,680,092	2,629,200	636,829
1953	2,676,044,049	585,602	4,570	198,299	906,226,430	3,760,479	1,768,108
1954	2,610,195,006	576,667	4,526	189,364	857,061,464	3,799,628	1,807,257
1955	3,127,145,514	624,011	5,011	236,708	1,186,143,788	5,030,994	3,038,623
1956	2,895,768,446	599,243	4,832	211,940	1,024,094,080	4,090,863	2,098,492
1957	2,954,775,530	588,160	5,024	200,857	1,009,105,568	3,885,366	1,892,995
			$45,499				

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(1) Source: 1957 General Motors Annual Report, p. 50
(2) Payrolls ÷ No. of employees
(3) Additional employees over 1947
(4) Column 4 × Column 5
(5) Additional units over 1947

Table II

HOW CAPITAL CONTRIBUTED TO EARNINGS OF G.M. WORKERS

Year	No. of Shares	Proportion of Total Common Stock Represented by 1003 Shares in 1947	Labor Income to Additional Employees Which the Stockholders Made Possible	Investment of 1003 Shares in 1947 Supported	
				No. of Jobs	Payrolls
	(1)		(2)	(3)	(4)
1947	44,104,340	.000022	......	8.52	$ 25,850
1948	44,104,340	.000022	$ 15,992,516	8.63	28,721
1949	44,104,340	.000022	134,132,636	9.38	32,386
	(2 for 1 split)				
1950	88,208,680	.000022	402,856,956	10.90	40,554
1951	88,208,680	.000022	434,905,182	11.04	41,925
1952	88,208,680	.000022	434,680,092	10.80	45,366
1953	88,208,680	.000022	906,226,430	12.88	58,873
1954	88,513,817	.000022	857,061,464	12.69	57,424
1955	88,513,817	.000022	1,186,143,788	13.73	68,797
	(3 for 1 split)				
1956	279,821,123	.000021	1,024,094,080	12.59	60,811
1957	280,989,096	.000021	1,009,105,568	12.35	62,050
					$522,757

(1) Source: General Motors Annual Reports
(2) See Table I
(3) Column 6 ÷ Column 4 of Table I
(4) Column 2 of Table I × Column 3

there is something wrong with the equity in our economy when $9,000 in ten years will earn more than ten years of work and sweat on the part of the human being.

"I say that there is something wrong with the economics and there is something wrong with the moral standards where $9,000 gets you more income than ten years of hard work. Yet, there it is. No one can challenge the arithmetic of that.

"That is what happened: $9,000 brought more than ten years of work, and $52,000 earned $284,000 of equity, and ten years of sweat and hard work earned $46,000.

"I am willing to stand before the world and say that that is wrong, that there is something wrong with our values when we have to fight giant corporations who defend this kind of what I think is cockeyed economics and distorted standards of human morality."*

Let's check the foregoing Reuther remarks. The labor leader was undertaking to set up in juxtaposition the amount of dollars received by a stockholder who bought 1,003 shares of General Motors stock in 1947 with the earnings of one General Motors employee. What, if anything, is wrong with the picture?

As a matter of fact, the investment in 1,003 shares in General Motors stock in January 1947 represented .000021 of the total productive facilities of the enterprise. This segment of the capital facilities provided tools for 8.52 employees, who in the aggregate received yearly compensation of $25,850, rather than Reuther's relating this capital to the employment of one employee who received $3,034. If accompanying Table I is examined, it will be observed that the recorded increase in sales and in the total number of employees from 1947 through 1957 was dramatically large. The type of worker who in 1947 was collecting $3,034 in 1947 actually earned $5,024 in 1957. Besides, there were 200,857 additional employees on the payroll by 1957. Likewise, the unit increase in 1957 in the production of cars as contrasted with 1947 was 1,892,000 automobiles.

The segment of the total G.M. capital which Reuther mentioned in his testimony accounted for the output of 40 more units in 1957 than in 1947. Table II discloses the total labor income and the number of jobs which were provided by the investment represented by 1,003 shares of G.M. Instead of the $46,000 of labor income which Reuther mentioned in his example, the aggregate labor income over the period supported by this fraction of the total capital of the corporation was $522,757. In 1957 this segment of the capitalization took care of 12.35 employees earning $62,050. As revealed in Table III, this segment of the aggregate investment in General Motors produced total dividends during the period of $98,755.38. Thus, if the stockholder, with Univac's precision and timing sold out at September 1957 prices before the full brunt of the recession was reflected in the stock market, labor would have received twice as much as the investor. Labor got five times as much as the stockholder of this segment received in dividends over the period. As Table III shows, the stockholder reinvested $63,038 over the period.

But apart from the foregoing specific financial facts of life, Reuther's attempt to set the worker in conflict with the share owner is unrealistic. In General Motors, as in numerous other companies, many thrifty persons occupy dual roles as share owners and as employees.

The record of G.M. workers in receiving through the years more and better things in exchange for a week's work shows the fatuity of the Marxian dogma about the class

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*Verbatim transcript, pages 508-510.

Table III

THE SCOREBOARD ON G.M. STOCKHOLDERS' ACTUAL TAKE

Year	Income Reinvested in the Business	Proportion of Total Common Stocks Represented by 1003 Shares in 1947	Reinvestment by Stockholder with 1003 Shares in 1947	Dividends Per Share	Total Dividends Received
	(1)	(2)	(3)	(4)	(5)
1947	142,895,576			.50	$ 3,009.00
1948	229,673,721	.000022	5,053	.75	4,513.50
1949	292,125,652	.000022	6,427	1.33	8,003.94
1950	295,003,941	.000022	6,490	2.00	12,036.00
1951	143,021,396	.000022	3,146	1.33	8,003.94
1952	196,751,827	.000022	4,329	1.33	8,003.94
1953	236,430,652	.000022	5,201	1.33	8,003.94
1954	356,538,392	.000022	7,844	1.67	10,050.06
1955	584,303,280	.000022	12,855	2.17	13,059.06
1956	281,614,518	.000021	5,914	2.00	12,036.00
1957	275,210,323	.000021	5,779	2.00	12,036.00
			63,038		$98,755.38

(1) Source: 1957 General Motors Annual Report, p. 49
(2) See Table II
(3) Column 2 × Column 3
(4) Source: 1957 General Motors Annual Report, p. 49 in terms of present $1-2/3 par value common stock
(5) 6,018 shares = present shares from 1,003 shares in 1947

struggle. In providing the facilities which enable workers to produce more and hence to earn more, the investor is a social benefactor, not an exploiter, as charged.

Table IV recasts G.M. sales figures in terms of what they would have been if the corporation had accepted Reuther's proposal to stick to the 1946 dollar in quoting selling prices for automobiles.

In completing the audit of Reutherisms, I want to allude to the union executive's remarks on January 29, 1958, before the Subcommittee on Antitrust and Monopoly of the Senate Committee on the Judiciary. Reuther's subjoined remarks are taken from page 493 of the verbatim transcript of the hearings.

Reuther said:

"If we are in a period in the development of the American economy where we need to emphasize the expansion of capital goods because the pressure of consumer demand is greater than the ability of the economy to satisfy that

Table IV

WHAT G.M. WOULD HAVE LOST IF IT FOLLOWED REUTHER

Year	1947-49 = 100 Wholesale Price Index Motor Vehicles	Index 1946 = 100	Net Sales	Net Sales in 1946 Dollars	Differences in Revenue (Column 4 less Column 5)
	(1)	(2)	(3)	(4)	(5)
1946	79.7	100.0	$ 1,962,502,289	$1,962,502,289	......
1947	91.3	114.6	3,815,159,163	3,329,109,217	$ 486,049,946
1948	100.8	126.5	4,701,770,340	3,716,814,498	984,955,842
1949	107.9	135.4	5,700,835,141	4,210,365,687	1,490,469,454
1950	107.2	134.5	7,531,086,846	5,599,321,075	1,931,765,771
1951	112.9	141.7	7,465,554,851	5,268,563,762	2,196,991,089
1952	119.6	150.1	7,549,154,419	5,029,416,668	2,519,737,751
1953	118.9	149.2	10,027,985,482	7,721,169,894	2,306,815,588
1954	119.3	149.7	9,823,526,291	6,562,141,810	3,261,384,481
1955	122.9	154.2	12,443,277,420	9,069,570,311	3,373,707,109
1956	129.8	162.9	10,796,442,575	7,627,650,445	3,168,792,130
1957	135.4	169.9	10,989,813,178	7,468,400,928	3,521,412,250

(1) 1946—Productivity, Prices, Incomes, Joint Committee Report, p. 266
1947-57—Handbook of Basic Economic Statistics, April 15, 1958, p. 131
(2) BLS Wholesale Price Index, 1946 = 100
(3) 1957 General Motors Annual Report, p. 49
(4) Column 4 ÷ 3
(5) Column 4 less Column 5

demand, then the emphasis ought to go to the people who need capital to create the factories necessary to expand productive facilities to meet the demand. But at the point you have got idle capacity, then you have got to shift the emphasis over to the purchasing power to reestablish the balance.

"Now if we were ten years back in the American economy and we were meeting now in 1948, and the pressure of pent-up purchasing power, the pressure of demand against the ability of the economy to satisfy that demand was such that we would get inflationary pressures because the capacity was not adequate to meet the demand, then I would not argue that we ought to shift the emphasis to the expansion of capital goods to create the factories we need.

"But we have created the factories. General Motors, Ford and Chrysler put in 7.2 billion dollars. The whole of American industry in the past 11 years put in 385 billion dollars. We have built the factories. They are standing idle now.

"What I suggest is that we need now to shift the emphasis to the expansion of purchasing power and not the creation of more factories."†

It will be noted that Reuther was seeking to make the point that his emphasis on creating purchasing power was related to the contemporary slump in customer demand for automobiles. He indicated that this prescription would not have been suitable in 1948, when the industry needed an enlargement in productive facilities (through capital investment).

But the record discloses that in 1948 in a booklet entitled "The Economics of Inflation" the U.A.W. was advocating the same procedure which Reuther was offering in January 1958. Instead of plumping in 1948 singlemindedly for capital formation in order to expand productive facilities, the U.A.W. booklet on Page 45 took this line: "More purchasing power is needed to prevent a depression—to keep factories producing and stores selling."

Evidently Reuther improvises and plays by ear, and counts on the fact that the capacity of the lay public for forgetting is very great.

Reuther's flexibility and his skill in talking out of both sides of his mouth caused this writer to observe in a speech before the Economic Club of Detroit that it is difficult to audit an eel. Difficult or fruitful, the effort should be made. Such evaluation of economic ideas will help a self-governing people to prosper and survive in a tumultuous and fast changing world.

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†Verbatim transcript, page 493.

This announcement is neither an offer to sell nor a solicitation of an offer to buy these securities. The offer is made only by the Prospectus.

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Copies of the Prospectus may be obtained in any State only from such of the several Dealers, including the undersigned, as may lawfully offer the securities in such State.

LEHMAN BROTHERS

October 21, 1958.

ROME CABLE CORPORATION

78th Consecutive Dividend

The Board of Directors of Rome Cable Corporation has declared consecutive Dividend No. 78 for 25 cents per share on the Common Stock of the Corporation, payable October 1, 1958, to holders of record at the close of business on September 16, 1958.

GERARD A. WEISS, *Secretary*
Rome, N. Y., September 3, 1958

SOUTHERN NATURAL GAS COMPANY

Birmingham, Alabama

Common Stock Dividend No. 79

A regular quarterly dividend of 50 cents per share has been declared on the Common Stock of Southern Natural Gas Company, payable December 12, 1958 to stockholders of record at the close of business on November 28, 1958.

H. D. McHENRY,
Vice President and Secretary.
Dated: October 25, 1958.

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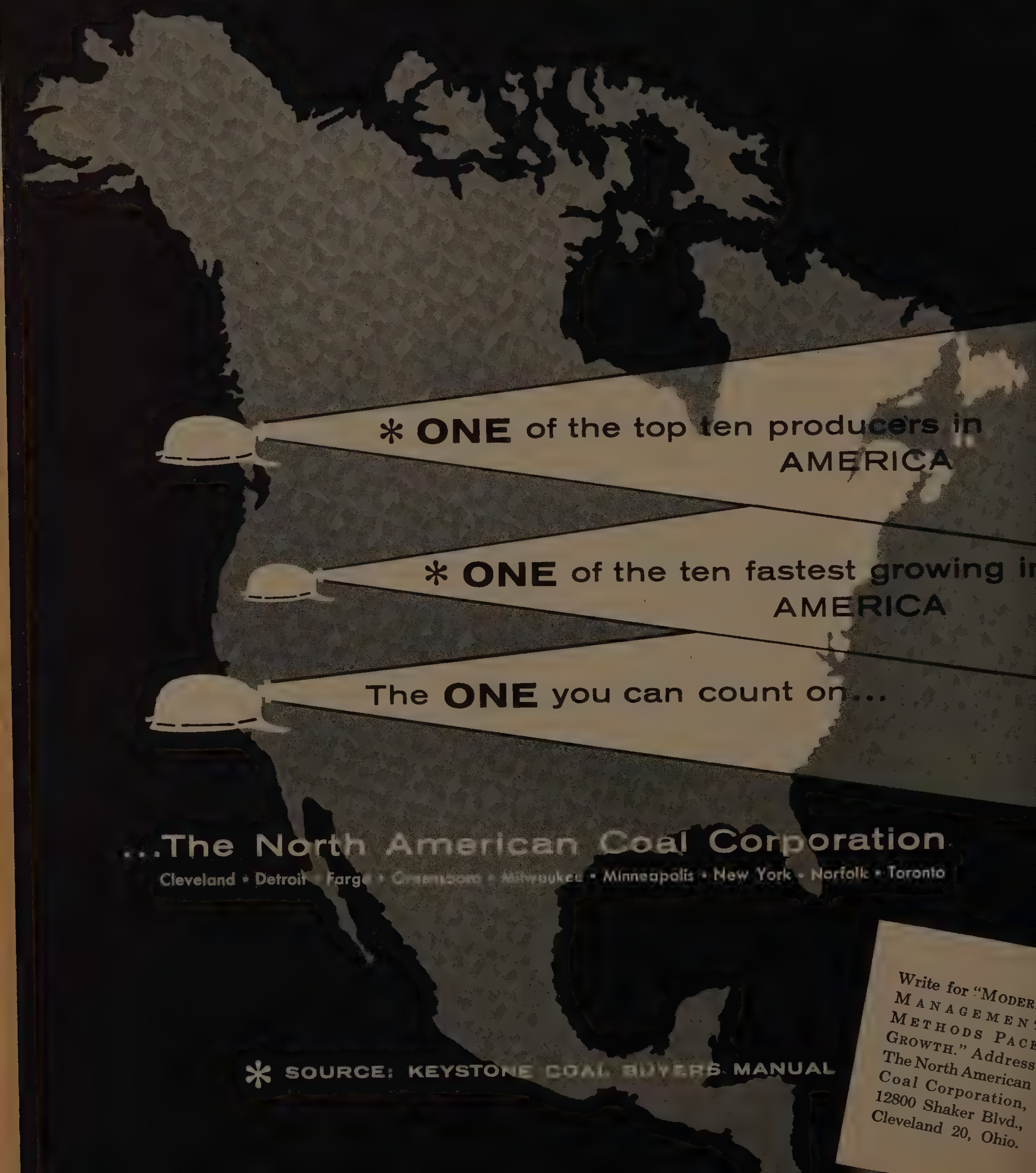

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Looking at Business and the Stock Market

JOHN C. BLAKE

RECENT FEARS OF TIGHT MONEY seem to have been over-done. Traditionally, interest rates rise as business improves. By raising margin requirements and approving an increase in the rediscount rate, the Federal Reserve Board has merely sought to dampen excessive inflation sentiment and to squeeze out some of the excess credit it pumped into the system earlier in the year. Such action is normal and should not have an adverse effect on the recovery in earnings now beginning. This action is in contrast to the Federal Reserve Bank's 1957 policy, when it was forcing severe monetary contraction throughout the entire economic system.

In an expanding, dynamic economy like ours, it is essential that credit flows normally and at optimum rates. It is inconceivable that the Federal Reserve Board wishes to, or will, stop a business recovery in its early stages. As long as earnings keep rising, stock investors should not worry about tight money until such time as this recovery begins to boom and unemployment falls off substantially.

Inflation, as a factor in the stock market, in any case, seems to have run its course for 1958. From here on, investors will have to look for rising earnings to put the market higher. A sharp business recovery plus the beneficial effects of increased profit margins due to efficiencies put into effect during the recession, may produce pleasant surprises for investors in respect to fourth quarter earnings.

GENERAL BUSINESS OUTLOOK

The immediate business outlook is one of continued rapid recovery. The only question is: how fast? The fact that our economy is becoming more and more dynamic is not yet fully appreciated by investors. Consider, if you will, these factors: the cold war, our expanding population (175,000,000 persons in October), huge amounts spent on research, the possibilities opening up in air and space travel, and finally, the insatiable desires and needs of the American people. Given an adequate money supply, our output, productivity and standard of living should continue to rise to new high levels.

At times for short periods, the American consumer pauses for breath. We have just been through one of these periods, which never last long unless prolonged by war or specific government action. Consumers, corporations and banks are now in excellent financial condition to support a prolonged period of prosperity—touched off initially this year and next by heavy Government spending. As long as labor is able to get annual wage increases, business will have an extra incentive to spend money for automation and for research.

Finally, looking at the world picture, populations are expanding rapidly everywhere and wants are insatiable. It would be imprudent to underestimate these world forces. Moreover, faced as we are with aggressive, militant economic competition from Soviet Russia, a robust economy is not only necessary but inevitable for a long time to come.

INVESTMENT POLICY

Rothschild once said, "Buy to the roar of cannon, sell to the tune of fiddles." If one substitutes "cold war" for "cannon", one can see that Rothschild's formula for stock market action is still apt. The over-whelming long-term market factor today is our armaments race with Soviet Russia. The military experts generally agree that only continued heavy arms expenditures will keep us in this race. Whether or not one feels that we are just ahead or just behind Russia is immaterial.

Three times since World War II, the Federal Government took in more money than it paid out. Those years were 1949, 1953, and 1957, and those years were also years of recession and of stock market decline. The development of an annual cash surplus for the Federal Government now seems remote.

The investor therefore is faced with the dilemma of business in the early stages of recovery, and yet at the same time with a stock market apparently "high." A combination of increasing sales and greater operating efficiency, can bring about a sharp rise in profits in the fourth quarter and in 1959, at least in some industries, as for example in the steel business. It has been true after each post-war recession. The steel companies are stepping up their output at a rate much faster than they are rehiring workers—hence revealing greater productivity, and wider profit margins.

Therefore, an investor who is operating on any kind of a periodic buying or dollar-averaging program would appear justified in continuing this program. While it does not seem to be appropriate at the present time to over-extend oneself at this level of the market, a policy of consistent selective, and prudent purchasing might well be continued, as the trend still runs upward, with no more than normal irregularities here and there. The cold war is the major stock market factor of our time, permitting the upward pressures of (a) labor unions and (b) over-large Government expenditures to exert their full effect, thereby giving us a continuous inflationary bias.

TECHNICAL MARKET FACTORS

Even since the stock market made its low last October, 1957, it has been a "worried" market. Even the bulls have been worried, first about the recession, then about the Middle East, and now about tight money and the Far East. That is what has made the market technically strong. It has brought about a record amount of short-selling — over 5,000,000 shares of stock which must be bought back. It has caused the odd-lot fellow to be a seller on balance—a

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John C. Blake, assistant treasurer of John Hancock Mutual Life Insurance Company, covers investments in the steel, aluminum, copper, coal and paper fields.

most bullish indication. As long as investors are worried about the level of this market, the technical position should remain strong.

It looks now as if the sharp decline of a year ago was merely another "shakeout" in the major bull market that started in 1949. If so, we are probably headed into the third and final stage of this bull market. For over three years the market has held within 10% of 470 on the Dow Jones Industrial Average. This base period is comparable with that of 1947-1949 and 1951-1953, as forming a good solid springboard for a further advance. These last three years have witnessed one worry after the other, the Eisenhower illness, tight money conditions, Suez Canal closing, the Russian "sputnik", and finally the recent recession. Against this background, the market on balance has held remarkably well during this period.

As long as volume expands as the market rises, and contracts on any daily market declines; as long as the short position remains high; as long as the odd-lot investor remains skeptical and sells on balance; and, in summary, as long as the market has a "worried" attitude, it should remain in strong technical shape. It will take considerable time for these factors to change, and therefore the market should continue to give a good account of itself for some time to come.

At the moment we seem to be a long way from either a market top or bottom, but for those interested, we present the following typical signs of a market top:

1. General bullishness *or* complacency prevails.
2. Usually one group of popular stocks in particular gets over-valued.
3. Second-grade stocks often get a play.
4. Market's new highs become front page news.
5. Climax—volume heavy with tape late—but little or no rise in price that day.
6. Thereafter, prices rise some, but volume declines.
7. A double or triple top is sometimes made.

At some time in the future we may be interested again in the following typical signs of a market bottom:

1. Rampant bearishness or gloom prevails.
2. Quality stocks begin to show attractive yields.
3. Nevertheless, good stocks are dumped.
4. Market's new lows become front page news.
5. Climax—volume very heavy with tape late—but little or no decline in averages that day.
6. Thereafter, on a minor decline in prices, volume falls off.
7. A possible double bottom may be made over an extended period.

THOSE "NON-INFLATIONARY" 1958 LABOR CONTRACTS

It has been surprising to read in some of the financial press—both local and national—enthusiastic comments on the "non-inflationary" character of the new labor contracts in the automobile industry. To say that the contracts are not inflationary, or are only a little bit inflationary merely because they did not give the U. A. W. all of its original demands, or did not give the U. A. W. as much as prior settlements, is like becoming enthusiastic over any economic ill because it might have been worse.

The contract was inflationary to the exact extent that the total wage increase exceeded the present total wage cost. For example, if the increase were 34c per hour (over three years) and if the present wage cost per hour were $2.50, then the inflationary cost would be 13.6%, or over 4% per year; i.e., at the rate of a total of over 40% over 10 years!

Whether or not such wage increase will result in an immediate increase in the price of cars is immaterial. The effect of this round of wage increases will spread throughout the entire economy, as it has in each post-war year. It will spread to the service industries where productivity can't be increased, and eventually will result in a general price inflation by an approximate similar percentage.

It is, furthermore, a farce to consider any "productivity wage increases" for direct labor as non-inflationary. In the first place, labor is not becoming more productive each year, rather it is the use of new machinery and tools which permits labor to work more efficiently. The cost of these new tools is already an added cost of operation, and to increase wages on top of this is pure inflationary and should be recognized for what it is.

Any increases in productivity resulting from automation, etc. should be used (after paying for the cost of tools) to offset uncontrollable increases in costs (e.g., in taxes), or to be used to reduce the price of the product to the benefit of consumers. Otherwise, we will continue to have more inflation.

CONCLUSIONS

The American economy seems to be entering a long-term period of dynamic growth, which is part of a world-wide trend. While an inflationary bias is present, a careful study of other factors such as research, industry trends, changes in consumer attitudes, will prove, as it has in the past, more rewarding to the investor than reliance on any general appreciation resulting from inflation.

* * *

Informality is the keynote during trading hours on Switzerland's famed stock exchange, Zurich's Effektenborse. For, as austere as the members are, coats and ties are doffed during the day's hectic trading sessions.

At Zurich the exchange is the freest in all Europe, for in Switzerland, which has no currency restrictions, the buyer can use any currency at hand.

Warrants

A Mathematical Method of Evaluation

GUYNEMER GIGUÈRE

A WARRANT IS A TRANSFERABLE OPTION conferring on its holder the right to purchase a specified number of shares of the issuer's stock at a stated price (often called "exercising price") for a stipulated or an unlimited time.

A need exists for an accurate method of evaluating it, not because it is an important security, but because it seems to be improperly evaluated in many instances without reason.

Indeed, in a field of endeavor where so much allowance must be made for imponderables, here is a security whose value is simply a function of only one variable, the price of the stock to which it is related, provided the exercising price is constant and the term unlimited or long enough.

It can be argued that it is the *future* price of the stock which concerns the purchaser of the warrant, who will pay up for the warrant of a growth stock, for example. But an option cannot be better than what it confers a claim on. If the stock is particularly attractive, this should also be reflected in its current price; hence there is no reason why a fairly close relationship should not be maintained between the two securities at all times.

Admittedly the stock and the warrant are traded separately and probably attract different groups of traders and investors who may assess the same fundamental factors differently; furthermore, factors of supply and demand are different in each case. So in the market place, the relationship between the stock and its related warrant cannot be perfect. It would be surprising if it were. But we are not only interested in how warrants behave, but also how they should behave. In fact, the value of a soundly based, reliable method of evaluating warrants would be to supply us with criteria against which actual market prices can be judged.

Our thesis is that there is a mathematical relationship between the price of a stock and that of its related warrant, which can be supported in theory, and which holds within reasonably close limits in many cases in practice.

Another objective of this article is to define the principal characteristics of warrants insofar as they might be useful in making investment decisions.

THE THEORY

A short life, a variable exercising price (increasing by steps every two years, say), a thin market or the speculative nature of the security itself, are all factors which could upset any relationship if there is one, and prevent a clear picture from emerging. For these reasons our examples have been culled from the highest quality securities, where the number of variables is at a minimum.

For our purposes we have selected Tri-Continental Corporation and Atlas Corporation. The relationship between the stock and the warrant in both cases is shown in Charts I and II.

These securities are well seasoned market-wise and have a relatively long history of wide price fluctuations, permitting wide-range charts to be drawn. Moreover, these warrants are perpetual and their "exercising price" is constant. We thus consider first ideal cases, where the only variable is the price of the stock and where the premium should be highest, leaving until later the analysis of warrants which expire or have a variable "exercising price," two factors which complicate the problem appreciably.

These Charts (I and II) correlate various corresponding market prices of the stock and the warrant from the time the latter was issued to date. The figures used are averages of monthly high and low quotations selected so as to delimit the extreme variations.

In the case of Tri-Continental it was thought advisable to differentiate the quotes before Selected Industries Incorporated was merged into Tri-Continental in 1951, when 2,082,300 warrants were issued in addition to the 1,008,648 already outstanding. This change in the supply was certainly important enough to affect the price of the warrant appreciably and may explain the difference in evaluation before and after the merger.

Our theory is that the relationship between the price of a warrant and its related stock is given by a parabola with its vertex at (o, o) and whose equation is:

$$W = \frac{P^2}{4a} \qquad \text{- - - - - - - - - - - - (1)}$$

where:

W = Price of the warrant measured along the y axis;

P = Price of the stock measured along the x axis to the same scale;

a = Exercising price.

In both charts, this function is shown as a broken line.

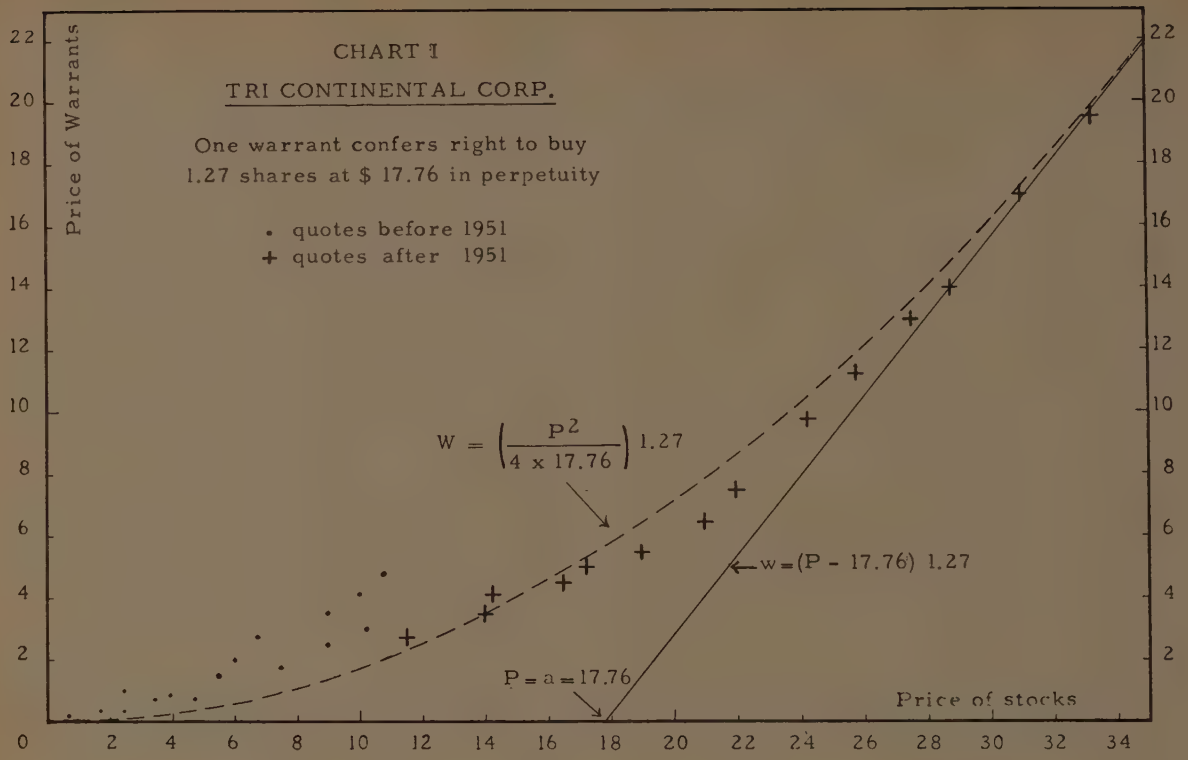
The straight solid line defines the minimum[1] value for the warrant given by subtracting the exercising price from the price of the stock, i.e.,

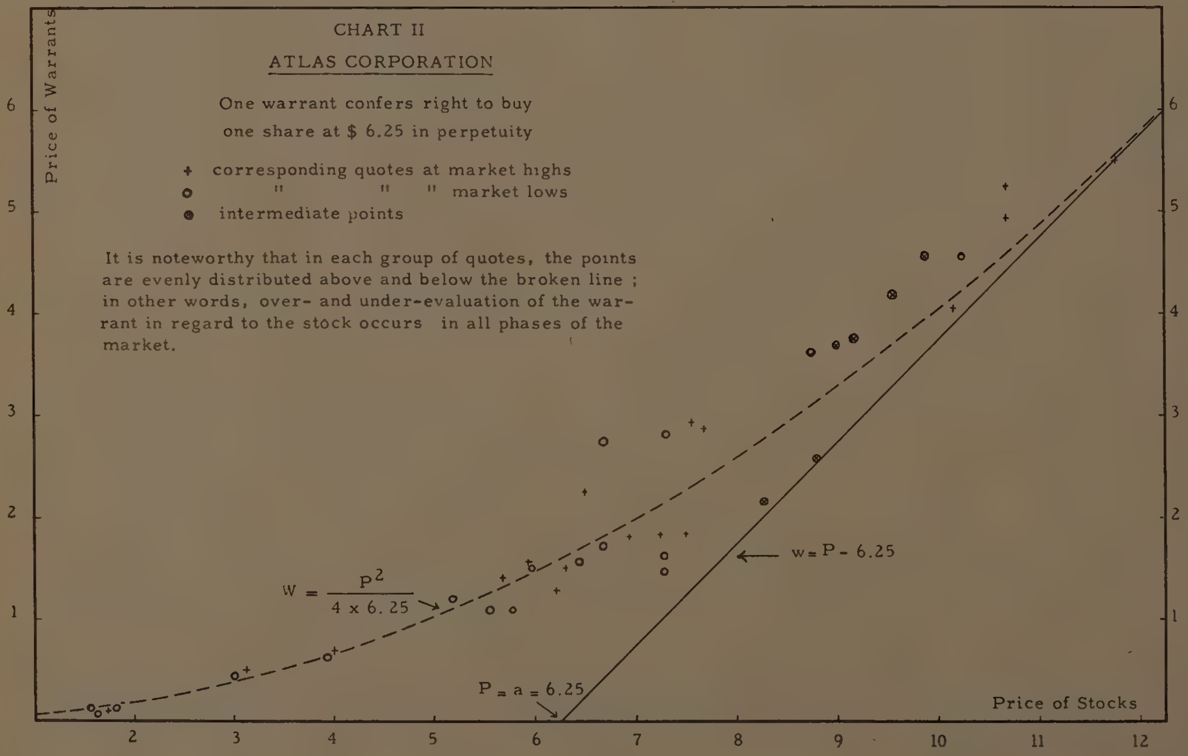
$$w = P - a \qquad \text{- - - - - - - - - - - - (2)}$$

Note that a small case "w" is used here to distinguish this value for the warrant from the one given by equation (1).

Guynemer Giguere is a partner with Bolton, Tremblay & Co., in Montreal, and currently is president of the Montreal Institute of Investment Analysts. He has a degree in engineering as well as holding a MBA from Harvard.

[1] Should the price of the warrant go below this line, traders would fill buying orders for the stock by purchasing the warrant and exercising it, thus tending to keep its price in line.





It is noteworthy that in each group of quotes, the points are evenly distributed above and below the broken line; in other words, over- and under-evaluation of the warrant in regard to the stock occurs in all phases of the market.

The specific equations are shown on the charts; note that in the case of Tri-Continental both equations must be multiplied by 1.27, since each warrant confers the right to subscribe to 1.27 shares of the common stock.

WHAT DO THE CHARTS SHOW

In the case of Tri-Continental, the correlation is very good in the range $P = \$12$ to $P = a$ (\$17.76) and not so accurate when P is lower than \$10, that is, for the period prior to the merger.

For values of P greater than "a" the actual market prices for the warrant are lower than those given by equation (1); this may be due to the fact that, because the warrant at these prices represented a more substantial investment that did not yield an income, whereas the stock did, investors were not willing to pay as high a premium for it.

For low values of W and P in the case of Atlas Corporation, most points are right on the line; in the range $P = a$ to $P = 2a$ they are about equally distributed above and below this line, regardless of the phase of the market (see explanation on the chart).

Two examples do not by themselves constitute a conclusive proof. These securities, however, are among the best of their kind from all points of view. The relationship holds, we feel, within acceptable margins; indeed, the "calculated" warrant price would have proven to be usable in judging whether at any time the warrant was over- or under-valued; where the theory does not hold so well in practice, the "calculated" price is more often than not conservative.

But the validity of equation (1) can also be vindicated theoretically.

The basic premises of the relationship are the following:

(a) A perpetual warrant is always worth something, even when the price of the stock is relatively very low.

(b) At some point[2] the relationship must be defined by equation (2).

The function defining W should therefore give very small values for W when P is near 0, increasing gradually to meet $w = P - a$ in such a way that the transition onto the straight line is gradual. These requirements are fulfilled by equation (1).

The constant in equation (1) has been expressed in the form $1/4a$ because,

(i) incorporating a known factor (the exercising price), it can be determined directly in all cases;

(ii) it gives the only parabola which meets the straight line $w = P - a$ tangentially at the point $P = 2a$, where equation (1) ceases to hold. Indeed, beyond this point the parabola moves away from the straight line which disqualifies it since, after decreasing to nearly 0 at $P = 2a$, the premium[3] would start increasing again, which is obviously impossible.

The reader can readily verify that at point $P = 2a$ the two equations yield the same value for w and W, which is "a".

We can now proceed to derive some of the characteristics of warrants. In the course of this analysis we will show examples of warrants whose actual behavior does not conform to the theory. On the other hand, further evidence that the theory is valid will also turn up.

LEVERAGE

The attraction of warrants is leverage, and no doubt it would be very useful if we could define it. This can be done if equation (1) is accepted, since by definition W will vary as the square of P. In other words, if the price of the stock doubles, the price of the warrant will quadruple; if it increases threefold, the price of the warrant will increase ninefold. This is illustrated below.

Given that $W_1 = P_1^2/4a$ and designating as P_2 and P_3 prices for the stock respectively twice and three times our starting price P_1, and as W_2 and W_3 the corresponding prices for the warrant, then,

$$\text{if } P_2 = 2P_1, \quad W_2 = \frac{(2P_1)^2}{4a} = 4 \times \frac{P_1^2}{4a} = 4 \times W_1$$

$$\text{if } P_3 = 3P_1, \quad W_3 = \frac{(3P_1)^2}{4a} = 9 \times \frac{P_1^2}{4a} = 9 \times W_1$$

Since this derivation was made using general terms and not specific values, it means that the leverage is the same at all levels of P on the curve, and is not proportional to the ratio P/W only, as is often thought.[4]

LEVERAGE RATIO

A convenient way to measure leverage is by the ratio of the percentage increase in the price of the warrant to the corresponding percentage increase in the price of the stock.

To show that the leverage is not proportional to P/W only requires the use of differential calculus. This section may be skipped by those not mathematically inclined; it is included for the sake of comprehensiveness.

Using calculus notation to express very small percentage increases, we get,

$$\%\text{ increase in P} = \frac{\Delta P}{P}$$

$$\%\text{ increase in W} = \frac{\Delta W}{W}$$

$$\text{The leverage ratio is therefore} = \frac{\dfrac{\Delta W}{W}}{\dfrac{\Delta P}{P}} = \frac{\Delta W}{\Delta P} \times \frac{P}{W} \text{ - - - } (3)$$

---

[2] In practice and for reasons which will be given later in the analysis this level is when the ratio P/W is 2.

[3] The vertical distance at any point between equations (1) and (2) extending back to the point where $P = 0$.

[4] When the price of the stock is "relatively" low, the potential appreciation it possesses may be said to be greater. At low levels for P (low in relation to "a"), the ratio P/W is high and this may have led to the belief that the leverage is proportional to the ratio P/W.

In the limit as ΔP approaches 0,

$$\frac{\Delta W}{\Delta P} = \frac{dW}{dP} = \frac{P}{2a}$$

which is the derivative of equation (1) expressing the slope of the curve at any point or the rate of change in the price of the warrant with respect to the price of the stock.

Substituting $\frac{P}{2a}$ for $\frac{\Delta W}{\Delta P}$ we get,

Leverage ratio =

$$\frac{P}{2a} \times \frac{P}{W} = \frac{P^2}{2aW} = \frac{2}{W} \times \left(\frac{P^2}{4a}\right) = \frac{2}{W} \times W = 2$$

The leverage ratio, then, is equal to 2 for very small increases in P. Furthermore, it is not a function of P/W *only*, but also of the slope of the curve at any point which increases as P/W decreases and vice versa. When the ratio P/W is high, which occurs when P is close to 0 and the leverage would *seem* to be high, the corresponding increase in W for any increase in P is relatively smaller than it is when the ratio P/W is small (i.e., when P is closer to 2 a).[5] These two factors, then, work in opposition to each other; taken together, they add up to a leverage ratio which is the same for any point *on the curve.*

Working out a set of values, using equation (1) for various percentage increases in P we find values for the leverage ratio as given in Table I.

Table I

% increase in price of stock	Corresponding % increase in price of warrant	Leverage Ratio
100	300	3
200	800	4
300	1,500	5
400	2,400	6

The high figures are not too realistic, but they are used to show that in certain extreme cases the leverage can be tremendous because it increases with the degree of appreciation in the stock.

In brief, then, for values of W defined by equation (1) the leverage is the same regardless of the level or starting point, but it increases in proportion to the extent of the subsequent move.

LOWER LEVERAGE BEYOND $P = 2a$

When the relationship is expressed by $w = P - a$, the leverage is, of course, different.

If $P_1 = 2a$, $P_2 = 2P = 4a$, $P_3 = 3P = 6a$, and $P4 = 4P = 8a$, the corresponding values for the warrant will be $w_1 = a$, $w_2 = 3a$, $w_3 = 5a$, $w_4 = 7a$, and the corresponding percentages increases are as shown in Table II.

Table II

Percentage increase in price of stock	Corresponding percentage increase in price of warrant	Leverage Ratio
P_1 to P_2 = 100%	w_1 to w_2 = 200%	2
P_1 to P_3 = 200%	w_1 to w_3 = 400%	2
P_1 to P_4 = 300%	w_1 to w_4 = 600%	2

At point $P = 2a$, we are now on the straight line $w = P - a$, the slope is unity and the leverage ratio becomes P/W only, which is equal to 2 at that point. Since, as P increases this ratio decreases, the leverage also decreases. This can be verified by doing the same kind of calculation as above, using $P_1 = 4a$ as a starting point, we find that again the leverage is constant but also that it is less, the ratio being equal to 1.33 instead of 2.

That the point of transition from function (1) to function (2) should be where $P = 2a$ or where the ratio $P/W = 2$ is now evident; this is where the leverage ratio in both cases is the same (= 2). We are referring to the minimum leverage ratio in the case of equation (1). There is therefore continuity and consistency if the transition is made at that point.

When the privilege conferred by the warrant is to buy more than one share, equation (2) must be multiplied by the number of shares in question, and the leverage is that much greater. A good illustration of this is the case of Foremost Dairies (see Chart III), where each warrant conferred on its holder the privilege to buy three shares at 6.66 to October, 1955. The leverage in such a case is three times greater, since when the price of the stock goes up one point, the price of a warrant to buy three shares will necessarily go up 3 points. Note that the slope of the line is much steeper than in the case where the privilege conferred by the warrant is for one share only when the slope is 45°.

In these cases, equation (1) must also be multiplied by the factor in question, but more often than not in practice the stock and the warrant do not sell in the range where it would apply because this operation is equivalent to reducing the exercising price, which reduces the length of the curve. For an example see the dotted line on Chart III.

MORE ABOUT LEVERAGE

Another way of analyzing leverage is by charting the function $W P^2/4a$ on log-log paper; this is shown on Chart IV for:

Tri-Continental Corporation
Atlas Corporation
Alleghany Corporation

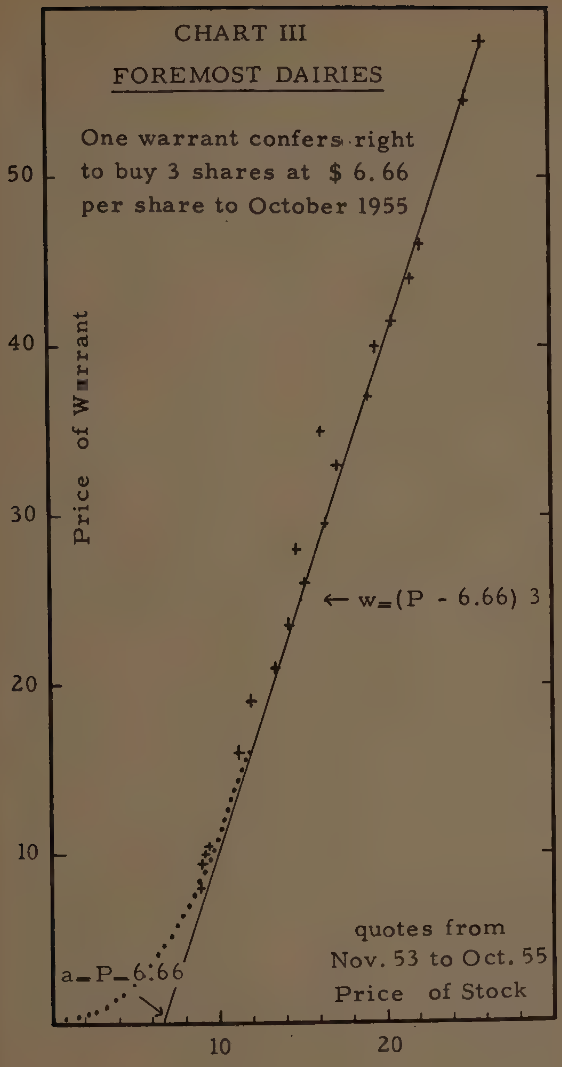
---

[5] The relationship between the ratio P/W and P is a rectangular hyperbola derived by rearranging equation (1):

$$\frac{P}{W} \times P = 4a$$

$$\text{Ratio} \times P = 4a \text{ - - - - - - - - } (7)$$

When P is very small the ratio is extremely high, decreasing as P increases until it becomes 2 when $P = 2a$.



The advantages of using log-log paper are that:

(1) the function shows up as a straight line, which is much easier to draw than a curve; equation (1) then becomes $\log W = 2 \log P - \log 4a$ - - - - - - - - - - - (4)

(2) equal distances along either axis give equal percentage increases, which makes the concept of the leverage ratio easy to visualize.

The reader will note that the slope of the straight part of the line is the same in all cases. If the slope were at 45° the leverage ratio would be one and the leverage nil. Beyond point $P = 2a$ (shown by an "x"), function $w = P - a$, which applies then, shows up as a curved line on log-log paper with a slope decreasing toward 45° as P increases, illustrating in another way that the leverage decreases beyond the point $P = 2a$, as the leverage ratio tends towards 1.

In all cases, actual corresponding quotes have been plotted (same points as used previously) to show that for Tri-Continental Corporation and Atlas Corporation the function selected is as good as any, since all equations of the second degree would give a straight line on log-log paper and examination shows that no other *single* straight line could fit all the points better. An example of how adjustments can be made to fit a specific case is given for Tri-Continental for points between $P = 18$ to $P = 25$, e.g., the broken line parallel to the main line but having a constant of "4.75 a" instead of "4 a". If Tri-Continental stock sold in this region again, more accurate values for its warrants could be determined, assuming, of course, that it would behave the same way on the way down.

The equation, as well as actual quotes for Alleghany Corporation, are also charted here because it is a good example of a case which does not conform to the theory. The writer has no explanation for this and must conclude that this warrant has been *consistently* over-evaluated in the market place. A relationship can be evolved empirically simply by drawing a line through the points plotted and extrapolating it (such as the one shown on the chart). The danger of using such a relationship is that at some point the warrant may be evaluated on a more conservative basis, resulting in a substantial downward readjustment. It is also noteworthy that, as indicated by the slope of the line, the leverage is less in this case.

EVALUATION OF RISKS

In the previous section the assumption was that the same amount of money would be invested in the warrant as in the stock.

There is an alternative, very important from the investment point of view, and that is to buy a number of warrants equivalent to the number of shares which the investor intended to buy anyway, thereby committing less money. The reasoning is as follows: If the stock is an attractive purchase, and, say, 100 shares would be bought anyway, should not 100 warrants be bought *instead,* thus securing a claim on 100 shares and achieving essentially the same objective with less capital and often less risk, at least until the warrant expires?

Let one warrant allow the purchase of one share at $10 and the number of shares and warrants involved be 100. A chart could be drawn on this basis where the scale would show, instead of the relative prices, the relative amounts invested in either the stock or the warrant. We have, however, elected to show this in the form of Table III, using points which will facilitate the arithmetic.

It can be seen from the table that if from point (4) the stock doubles, the warrant will triple, but the dollar profit stands to be the same in either the stock or the warrant, i.e., $2,000.

If, on the other hand, the stock goes down 50%, to point (3), the loss which could be incurred by holding it is $1,000, while the loss on 100 warrants, while greater percentage-wise, would be only $750 (25% less).

From point (5) on, the potential profit dollar-wise is the same in the stock or the warrant, but so is the potential loss; the only advantage of holding the warrant instead of the stock is that it requires less money.

At lower level, however, the advantages of an "equiva-

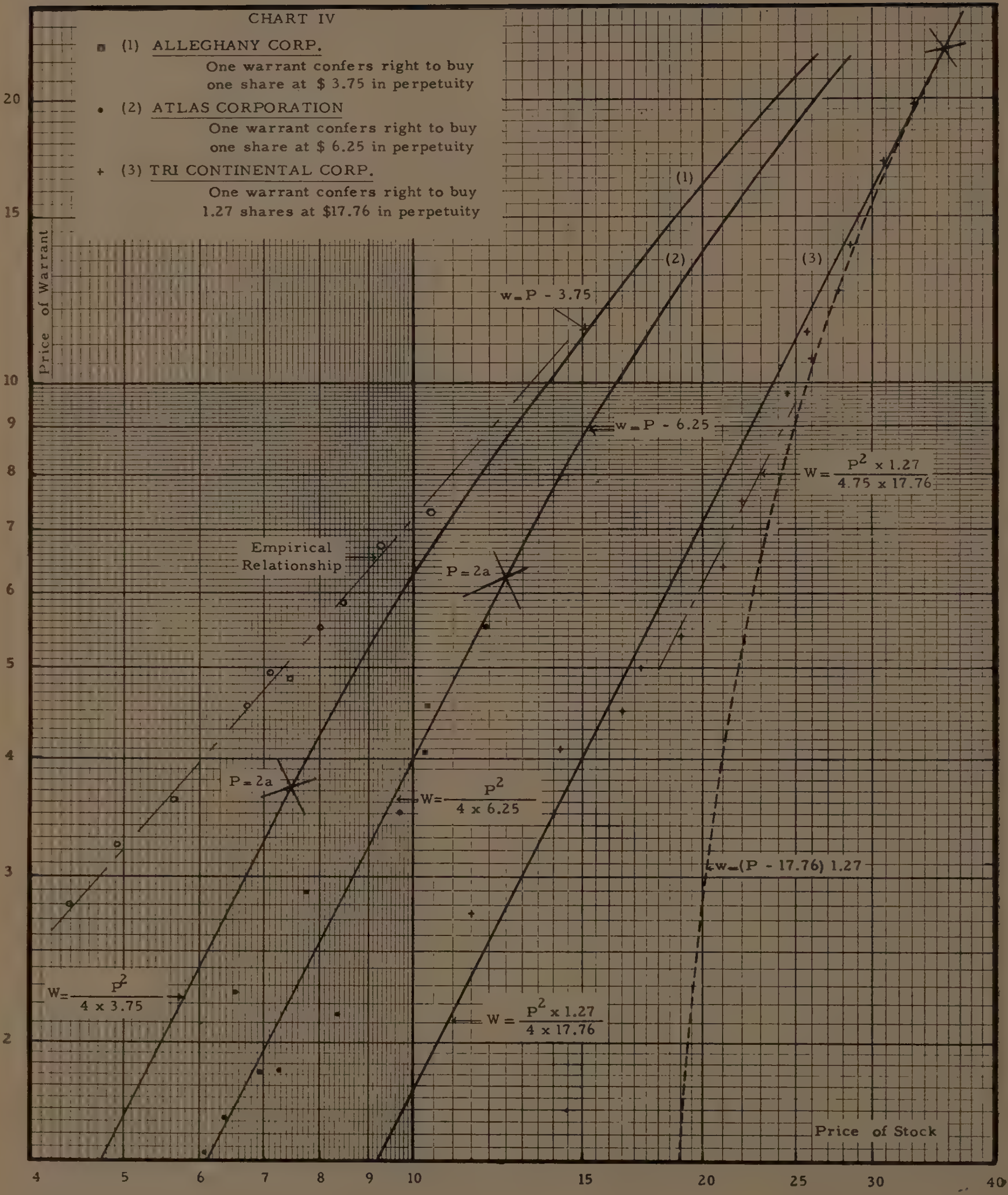


CHART IV
▪ (1) ALLEGHANY CORP.
One warrant confers right to buy one share at $ 3.75 in perpetuity
• (2) ATLAS CORPORATION
One warrant confers right to buy one share at $ 6.25 in perpetuity
+ (3) TRI CONTINENTAL CORP.
One warrant confers right to buy 1.27 shares at $17.76 in perpetuity
Price of Warrant
Price of Stock
(1)
(2)
(3)
w = P - 3.75
w = P - 6.25
$W = \frac{P^2 \times 1.27}{4.75 \times 17.76}$
Empirical Relationship
P = 2a
P = 2a
$W = \frac{P^2}{4 \times 6.25}$
w = (P - 17.76) 1.27
$W = \frac{P^2}{4 \times 3.75}$
$W = \frac{P^2 \times 1.27}{4 \times 17.76}$
20
15
10
9
8
7
6
5
4
3
2
4
5
6
7
8
9
10
15
20
25
30
40

Table III

		When P equals:	W equals: (*)	Investment in the stock (100 shares	Differences	Corresponding investment in the warrant (100 warrants)	Differences
Equation (1)	(1)	$\frac{a}{4}$ = $ 2.50	$\frac{a}{64}$ = $ 0.156	$ 250.	$	$ 15.63	$
					250.		46.87
	(2)	$\frac{a}{2}$ = 5.00	$\frac{a}{16}$ = 0.625	500.		62.50	
					500.		197.50
	(3)	a = 10.00	$\frac{a}{4}$ = 2.50	1,000.		250.00	
					1,000.		750.00
Equation (2)	(4)	2 a = 20.00	a = 10.00	2,000.		1,000.00	
					2,000.		2,000.00
	(5)	4 a = 40.00	3 a = 30.00	4,000.		3,000.00	
					4,000.		4,000.00
	(6)	8 a = 80.00	7 a = 70.00	8,000.		7,000.00	
					8,000.		8,000.00
	(7)	16 a = 160.00	15 a = 150.00	16,000.		15,000.00	

*Using equation (1) up to $P = 2a$, and equation (2) thereafter.

lent" investment in the warrant are great. Take point (2). The downside risk in 100 shares is $250, assuming a 50% decline as before. In the warrant it is $46.87, while the potential profit, however, is less than half what it would be in the stock. But if the investor is willing to risk, say, $250, he would be better to buy 500 warrants for a total investment of $312.50 and a downside risk of $234.35. His potential profit would then be $937.50, or nearly double that provided by an investment in 100 shares.

There are, therefore, advantages in buying the warrant *in lieu* of the stock. Indeed, when an "equivalent" investment is made in the warrant, the risk can always be limited to that in the stock, whereas an equal or greater potential appreciation can be secured. This is providing, of course, that the price of the warrant is right and the term of the option sufficiently long. The advantages are greater at lower levels and decrease markedly as P increases beyond point "2 a". This is especially true if the stock yields an attractive income because the small advantage of the warrant at these levels does not compensate for the fact that the funds tied up in it do not yield any income.

LIFE OF THE WARRANT

Because most warrants expire eventually, the term of any warrant is a most important factor to consider. Our discussion of it has been left until now because it will be easier to analyze this variable now that the basic relationship has been established.

A typical case is that of Selburn Oil, shown on Chart V. First, it is interesting to note that most points are, as expected, *below* the line $W = P^2/4a$, suggesting that the relationship for warrants that expire might be expressed by a parabola parallel to, and lower than, the basic equation, offset by a distance proportionately greater as the length of the option diminishes; two such equations are shown, lines (2) and (3).

But in practice it is not the length of the option that matters so much as what the stock is likely to do before the expiry date. A stock can double in six months and if that possibility exists there will be buyers for the warrant. Remembering also that a warrant to buy a share of A. T. & T. and one to buy a share of I. B. M. are two very different things, it is obvious that no hard and fast rules can be derived to cover all specific cases. The most that can be done is to define the limits of our general theory.

Everything else being equal, the perpetual warrant should command the greatest premium. On the other hand, the premium on a warrant which expires in a short while, say six months, should be smaller. Since equation (1) is valid for perpetual warrants, it establishes the upper limit. There remains to establish the lower limit.

We shall be concerned here only with warrants having a term longer than a year, yet shorter than five years. Longer term warrants can be grouped with perpetual warrants, and the most direct way to deal with very short term warrants

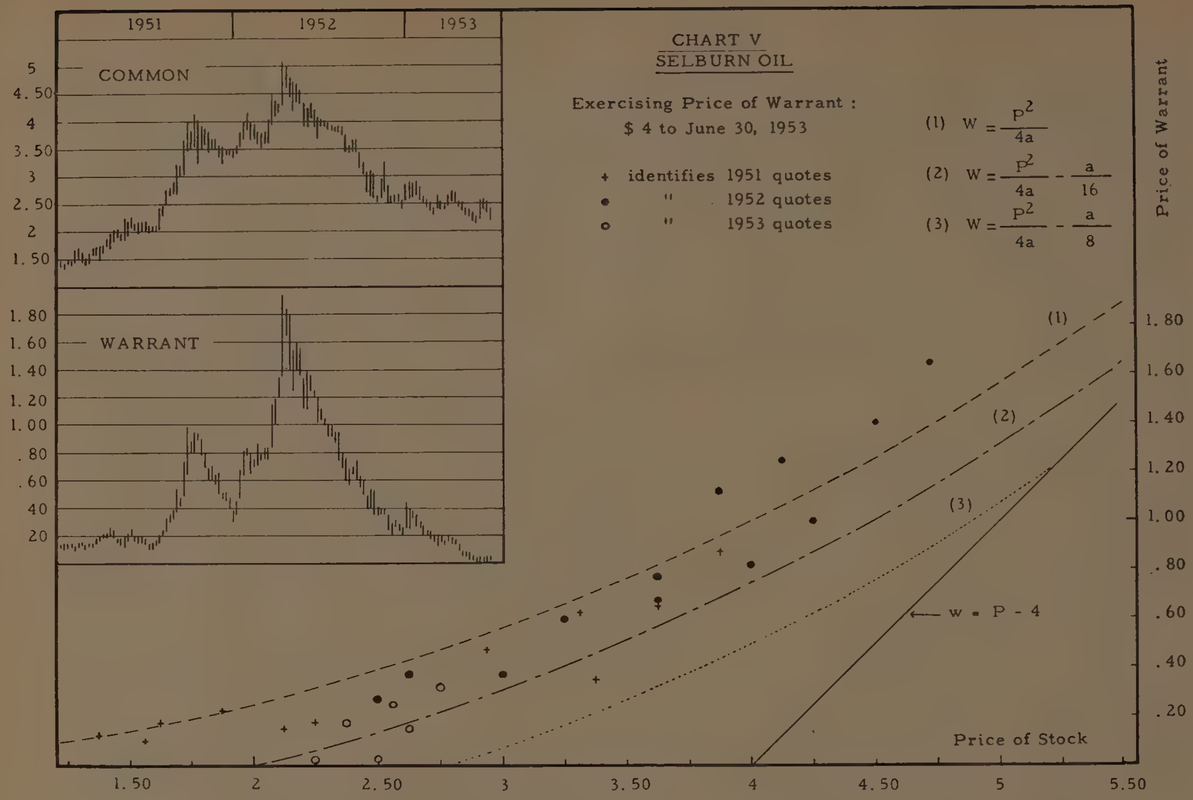


CHART V
SELBURN OIL

Exercising Price of Warrant :
$ 4 to June 30, 1953

+ identifies 1951 quotes
● " 1952 quotes
○ " 1953 quotes

(1) $W = \frac{P^2}{4a}$

(2) $W = \frac{P^2}{4a} - \frac{a}{16}$

(3) $W = \frac{P^2}{4a} - \frac{a}{8}$

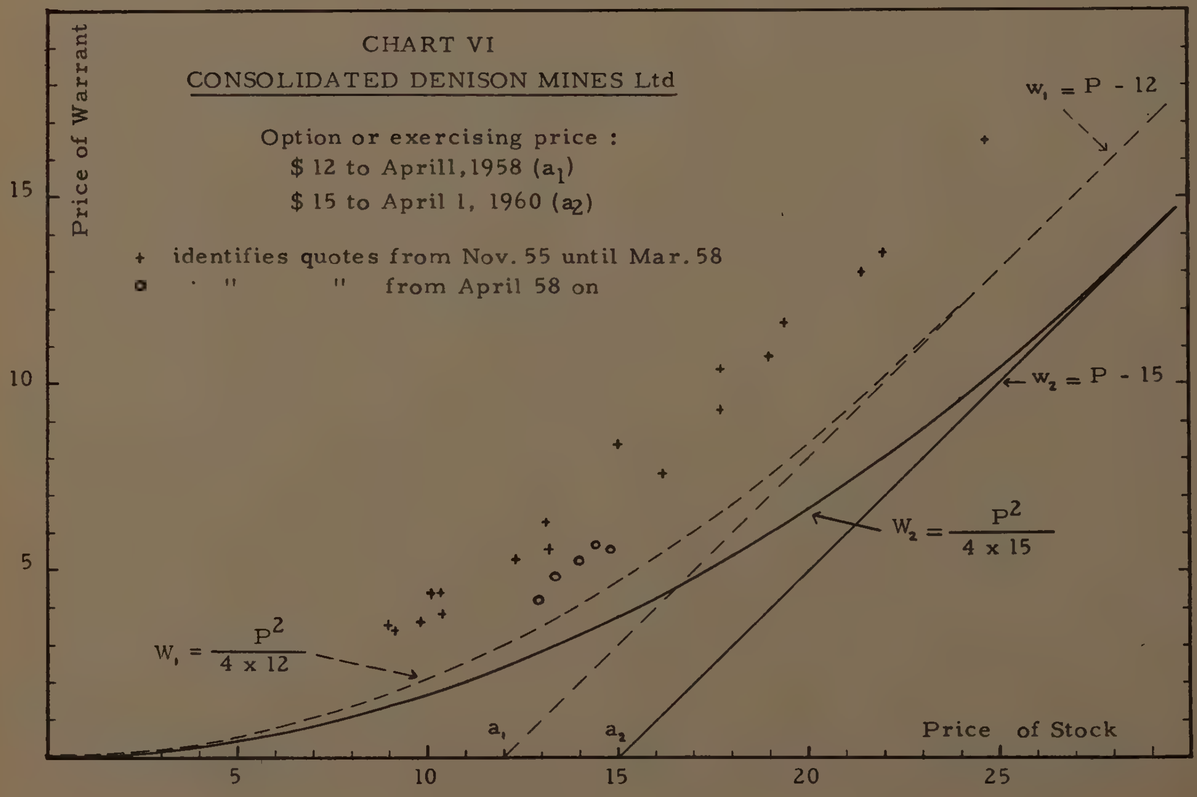


CHART VI
CONSOLIDATED DENISON MINES Ltd

Option or exercising price :
$ 12 to Aprill, 1958 (a_1)
$ 15 to April 1, 1960 (a_2)

+ identifies quotes from Nov. 55 until Mar. 58
○ " " from April 58 on

is to *guess* the price at which the stock is likely to sell before expiry date, and work from there.

For the middle group a modified form of equation (1) such as $W = P^2/4a - a/16$ (equation (2) of Chart V) is the answer. By working through a series of hypothetical moves (Table IV), this equation can be tested and shown to be very conservative because the leverage is appreciably higher. Since the risks are greater in a shorter term warrant, it is reasonable that this should be compensated by higher leverage. But there the market will not allow the leverage to get out of hand and it is safe to consider this particular equation as the lower limit. Similar calculations would show that equation (3) is out of the question, as the leverage would be unrealistically high.

Table IV

P_1	Corresponding W_1 as given by equation	P_2 at time warrant expires	W_2 at time warrant expires ($P_2 - 400$)	$\frac{W_2}{W_1}$
\$2.50	0.14	5.00	1.00	7.1
2.75	0.223	5.50	1.50	6.7
3.00	0.312	6.00	2.00	6.4
3.50	0.515	7.00	3.00	5.8
4.00	0.75	8.00	4.00	5.3

The limits are therefore narrow, and in practice the general formula (1) can be used in all cases where the term is more than one year, providing a rough adjustment of, say, minus $a/20$ (plus or minus) is made. Experience will be the best guide here.

WARRANTS WITH INCREASING OPTION PRICES

A good example of such a warrant is given in Chart VI (Consolidated Denison); it is typical of all the warrants which were issued in connection with the financing of uranium mines in Canada.

At this stage it is obvious that a conservative way to evaluate such warrants is to use the higher option price in equation (1).

However, until the exercising price changed from \$12 to \$15 on April 1, 1958, the price of the warrant for prices for the stock greater than \$16.50 should have been determined by the equation $w = P - 12$, which is the dotted straight line which crosses the full curved line at a point where $P = \$16.50$, approximately.

As shown on the chart, the experience in practice has been quite different, and in fact this warrant has been overvalued most of the time.

THE QUESTION OF INCOME ON THE STOCK

For the speculator who considers warrants as an "alternative" investment, and invests relatively larger amounts in them, income cannot be a consideration because it is easily overshadowed by the greater potential capital gain or loss. Similarly, since short term warrants are basically speculative, there is no point in considering income in such cases.

For the investor who makes an "equivalent" investment in the warrant (as defined previously), income could be a consideration in certain cases where the yield on the stock is attractive. Since its importance, however, is related to the individual's objectives, and since tax considerations enter into the picture, it does not seem possible to do more than point out here the general outline of the problem, leaving it to each analyst to work out the arithmetic in specific cases.

Referring back to Table III, up to $P = a$, the equivalent investment will be small, and whatever income is forfeited by holding the warrant is not worth considering.

From $P = a$ to $P = 2a$, the ratio P/W rises from ¼ to ½ and as suggested at the beginning when we discussed Tri-Continental warrants, income can be a factor here.

Beyond point $P = 2a$ income will be a factor because, from here on, not only does the leverage become less, but the equivalent investment in the warrant becomes more than half the investment in the stock.

SUMMARIZING

Anyone familiar with warrants knows that unless the price of the stock is appreciably greater than the exercising price, warrants should command a premium. This is somewhat axiomatic, since, if the relationship between the warrant and its related stock were given by $w = P - a$, the leverage at low prices would be extremely high and the potential profits in warrants tremendous. Besides, an option —if it is long enough—is obviously worth something.

The difficulty is to set a reasonable value. We feel that the validity of our theory expressed by the combination of equations (1) and (2) has been adequately demonstrated, considering that the amount of suitable data is somewhat limited. Indeed, there are very few warrants of good quality where a wide range of market quotations is available. There is no doubt that equation (1) can be useful in practice in determining within limits whether a warrant is over- or under-valued. With time, it will no doubt be improved upon. In the case of Atlas Corporation, for instance, there were numerous occasions where the warrant was appreciably undervalued; such information can be valuable. On the other hand, our approach would have shown that most uranium warrants were at times grossly overvalued.

One worthwhile conclusion which comes out of the analysis is that, providing the stock is a good buy, an *"equivalent"* investment in the warrant can, very often, be more advantageous. Remembering that a warrant can never be better than its related stock the latter should be looked at first, then comes the evaluation of the warrant in relation to the stock; this is where the method described herein can be useful. Indeed its sole purpose is to define the price of the warrant in relation to the price of the stock.

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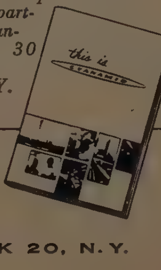

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Beryllium
Present and Potential Uses

LAWRENCE F. BOLAND

BERYLLIUM IS ONE of the new metals which owes its recent prominence and expansion of production to the growth of atomic energy. Perhaps beryllium is not so new since it has been available as metal in small quantities for the past 25 years. However, until the Atomic Energy Commission developed new uses for beryllium in atomic reactors very little attention was paid to the metal. Until recent years, the industry grew almost entirely around beryllium copper alloys, where beryllium is used to harden copper.

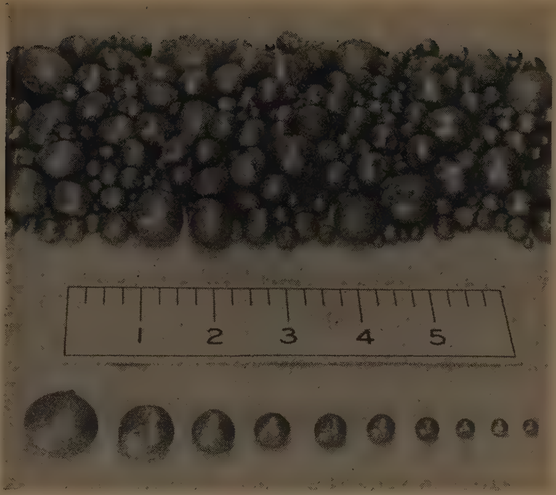
In any discussion on the use of beryllium for atomic energy, one must keep in mind there are two entirely different materials involved—one is beryllium metal, the other beryllium oxide. One is a metal, the other a refractory non-metallic material. To avoid possible confusion on this subject, each will be treated separately and an attempt made to show how they complement each other.

BERYLLIUM METAL

In 1951 the AEC established facilities to produce beryllium metal in volume, both as vacuum cast billet and hot pressed shapes. This was a big step for beryllium, boosting production from several hundred pounds per year to approximately 40,000 pounds annually. In late 1956 the AEC contracted with two private producers for delivery of a total of 200,000 pounds a year for five years beginning 1958. The new plants constructed to meet this requirement are the only large-scale basic beryllium metal plants in production in the United States today, as the AEC owned facility for production of beryllium billet has now been shut down and placed on standby.

The end uses of beryllium in nuclear reactors have been well publicized. Practically all of the metal is used as a reflector or moderator in order to capitalize on the low thermal neutron absorption cross section of beryllium. For example, the new AEC Engineering Test Reactor at Idaho Falls has, surrounding the core of the reactor, an inner reflector of beryllium, its primary purpose being to reflect neutrons from the chain reaction back into the core, thus reducing the amount of fuel needed and increasing reflector efficiency. Small quantities of beryllium are used as beryllium-plutonium neutron sources. Other specific end uses of beryllium by the AEC have been and remain classified.

In Europe further use has been made of beryllium in nuclear reactors as an additive to magnesium alloys for fuel element cladding. Recent information from England indicates serious consideration is being given to the use of beryllium for canning metallic and non-metallic fuels, as well as for support members for the fuel elements proper. This use is predicated on higher temperature operation of Calder Hall type gas cooled reactors.



An assortment of beryllium metal beads.

Other applications being considered by industry for beryllium metal are: parts for X-ray cameras; high speed cameras; aircraft brake parts; underwater instruments; accelerator targets; as a "getter" material for use in heated liquid metals; gas turbine engine parts; high frequency electronic parts; aircraft instruments, beryllium additives to aluminum, zinc and other alloy melts as an deoxidizer; high velocity testing equipment; beryllium additives to steel as well as beryllium additives to aluminum baths for "aldip" coating of steel; rotor shafts in refrigeration equipment; and rocket engine components.

HIGH HEAT YIELD

Since beryllium has one of the highest heat yield ratings of any element on the atomic table (29,000 B.T.U.'s per pound—surpassed only by hydrogen at 52,000 B.T.U.) it has been considered for high energy fuels. Even though beryllium rates highest on the table of materials as a source of energy for fuels on a combined B.T.U. and volume basis (hydrogen being a gas occupies far more space per pound than beryllium), it currently is of laboratory interest only in this field for reasons outlined later.

The future may hold far wider uses of beryllium in non-nuclear fields than was ever contemplated for atomic energy. During the past year the Air Force and the aircraft industry have indicated substantial interest in beryllium for structural applications.

The aircraft industry is interested in using beryllium for aircraft, missiles and space ships because beryllium is the only light metal with a high melting point and extremely high modulus of elasticity. The following table indicates how beryllium compares with other aircraft alloys:

Lawrence F. Boland is a vice president and a director of The Beryllium Corp. He attended the Wharton School of Finance, University of Pennsylvania, and is a member of the American Society for Metals, American Ordnance Association and National Sales Executives Club.

	Density (lb./in.)	Melting Point (°F)	Modulus of Elasticity (psi)	Tensile Strength* (psi)
Beryllium	0.066	2350	40,000,000	40,000 – 80,000
Aluminum	0.100	1220	9,600,000	25,000 – 85,000
Magnesium	0.065	1202	6,500,000	24,000 – 52,000
Steel	0.280	2750	30,000,000	185,000 – 250,000
Titanium	0.165	3300	15,500,000	130,000 – 170,000

*Estimates based on sheet material comparisons

The above table shows that beryllium is distinctly alone as a light metal, possessing high temperature characteristics and excellent stiffness (modulus), qualities not found in the commonly used light metals. Note that although Beryllium is almost as light as magnesium, the modulus of elasticity is one-third greater than that of steel. The property which current grade beryllium lacks—not shown by this table—is ductility. This limits immediate use of beryllium in large quantities. Success of planned research will govern expansion of use in aircraft fields.

Currently planned and under way are many research and development programs on beryllium representing several million dollars of sponsorship by the Air Force. Programs contracted for to date include evaluation of additives to beryllium, brittle phase investigation and sheet rolling. Planned for release shortly are further research contracts on casting, composite materials, joining and surface effects, as well as programs on development of forging and extrusion methods.

BERYLLIUM OXIDE

To fully cover beryllium in nuclear and related applications requires examination of beryllium oxide, a "sleeper" in the sense that few people are aware of present uses of beryllium oxide entirely separate from the metal, and the extent of potential fields for the use of this material.

Beryllium oxide is a refractory material with rather unique properties. Current prime interest from an application standpoint is in its use as a moderator and/or reflector, chiefly to take advantage of its high melting point (twice that of beryllium metal) and in some cases, the lower costs of finished shapes when compared with beryllium metal. Beryllium oxide, hot pressed and machined shapes, are now being produced commercially to densities as high as 2.85 gr/cc (approximately 95% of theoretical) for use in nuclear reactor construction.

The use of beryllium oxide as a moderator/reflector is not new having been referred to in literature both in the United States and abroad as being used in research reactors.

Indications are that beryllium oxide might rapidly parallel beryllium as a material of construction for use in atomic reactors.

To give you some idea of the comparison of beryllium metal versus beryllium oxide for moderator/reflector end use, see the following table:

	Melting Point	Thermal Neutron Absorption Cross-Section	Hardness	Density
Beryllium	2345 F.	.009 Barns	B 55-90*	1.85 gr/cc
Beryllium Oxide	4658 F.	.010 Barns	2000**	3.025 gr/cc

*Rockwell **Knoop

When consideration is being given to the use of beryllium metal versus beryllium oxide in reactor construction on a comparative basis, other factors such as fabrication problems, mechanical loading, etc must be studied.

Usually ceramic materials are poor heat conductors, but an unusual quality of beryllium oxide is that it possesses high thermal conductivity. This characteristic, plus the good high frequency electrical insulating properties of beryllium oxide, suggests many applications in electrical and electronic fields.

Beryllium oxide is being considered for use by manufacturers of Klystron and ceramic tubes where low dielectric losses and high thermal shock properties are required. Work is being done on use of beryllium oxide for power tube components to increase power output of the tubes and reduce the size of cooling units.

Beryllium oxide is also being used as a slurry for coating graphite crucibles to insulate the graphite from alloys being melted where carbon contamination is undesirable. Beryllium oxide is being studied for use in antenna window applications, airborne radar antennae, electronic parts, high-temperature thermocouples, protection tubes cooling power transistors in electronic equipment and guided missile components such as gas seals.

Today in the electronics industry the trend is towards higher and higher service temperatures. This creates many new problems in the selection of materials. Data developed to date indicate that materials which resist temperature also resist radiation. Beryllium oxide is radiation stable and does have high temperature characteristics including good thermal shock properties. This should suggest many applications to the electronic-nucleonic engineer.

After examining some of the above established and potential uses for beryllium metal and beryllium oxide, the obvious question is "Why isn't beryllium now being used in more tonnage by the aircraft industry and in electronics and other fields?"

The answer can be found by examining the following subjects, namely:

(1) cost
(2) availability (scarcity)
(3) brittleness (ductility)
(4) toxicity

These will be treated in the order named.

(1) *Cost*

In the late "forties", beryllium metal sold for $100 to $150 a pound. After the operation of the AEC plant built in 1951, the cost of beryllium dropped 50% to 60%. By placing contracts in 1956 with private industry, the AEC obtained another reduction of 15% to 20% on the cost of beryllium metal. In other words, when the government substantially increased the quantity purchased, industry was able to further reduce the price of beryllium to one-third that of 1951 levels.

One thing is obvious so far: as demand for beryllium increased, prices went down. However, beryllium still remains an expensive material at today's price of $47 a pound for billet, and $65 to $80 a pound for hot pressed and rough

Finely ground beryllium metal powder is hot pressed in this vacuum furnace to more than 98% theoretical densities at The Beryllium Corporation's Nuclear Division plant in Hazleton, Pa.

machined block. Increased demand and stability of demand are needed to bring these prices down further. The question is "How much lower can this price be reduced as volume increases?" An indication of the possibilities was developed recently in connection with studies made in the event aircraft uses materialize. It has been estimated that if present annual volume holds and an additional 200,000 pounds of beryllium a year were required, the price could be reduced another 15% to 20%.

A much larger reduction can be made in the price of beryllium to nuclear users by improvements in fabrication. Today practically all beryllium metal parts for nuclear reactors are produced by powder metallurgy. This means the vacuum cast billet must be lathe chipped, and subsequently ground into powder. The blended powder is hot pressed under vacuum into blocks. These blocks, in turn, are then machined to the particular shapes required. This procedure is costly. In speaking of costs or prices of beryllium to the nuclear reactor builder one must look at the cost of the end parts, rather than the cost of billet.

Looking into the future, the picture on cost reduction is very encouraging. Already improved techniques and greater efficiencies have substantially reduced the costs of components. It is expected that further reductions will be made as lower-cost beryllium—made possible by AEC commercial billet contracts and available for the first time in 1958—is converted into end parts.

Now that the Air Force has expressed increased interest in beryllium for non-nuclear uses, the industry is studying methods to produce beryllium mill forms, sheet, rod, bar, extrusions, etc. by conventional methods. It is hoped to develop techniques whereby the lowest cost of beryllium "bead" can be converted to a billet which can be directly extruded or hot formed. Preliminary work done to date is very encouraging. This is a singular example where non-nuclear potential demand can cut costs to the nuclear user.

Currently, practically all of the beryllium oxide parts are being produced by hot pressing techniques. However, cold compacting, slip casting, extrusion and other techniques that may permit more flexibility in design and reduce costs of end pieces are also being explored. Although beryllium oxide shapes of simple design now cost $40 to $60 a pound, as better manufacturing methods are developed, shapes may be available for moderator/reflector end use in another five years at $15 to $20 a pound. At this price level beryllium oxide could be very attractive as a moderator material to builders of commercial nuclear power reactors.

There may be a question as to how demand for beryllium oxide can help reduce the cost of beryllium metal, or vice versa.

Prime producers of beryllium and beryllium alloys produce beryllium oxide as an intermediate step towards making both beryllium metal and beryllium copper alloys. Any substantial increase in use of the metal or the oxide can help reduce costs of either product to the consumer. A reasonable commercial market for beryllium metal in the aircraft industry, for example, with no reduction in nuclear market volume, could very easily reduce the cost of beryllium oxide to the builder of a commercial nuclear power reactor.

Summarizing the cost picture—What does the future hold for commercial nuclear uses of beryllium and beryllium oxide?

Beryllium metal parts will benefit from lower beryllium billet costs to be realized in 1958. Fabrication costs are headed downward. New techniques for producing beryllium parts now being developed could reduce costs still further and should aircraft uses develop into a tonnage outlet for beryllium, prices may go down substantially.

Beryllium oxide components, now available at $40 to $60 a pound may be produced by new methods under study with price reductions as high as 50% to the nuclear reactor builder. Increases in the use of beryllium oxide components and improvements in manufacturing techniques hold the answer.

(2) *Availability* (*Scarcity*)

Periodically when beryllium is reviewed by various agencies as a material for possible use in new fields, one of the negative features mentioned is scarcity. Recent reports from the United States Bureau of Mines and articles on consideration of beryllium for high energy fuels stress scarcity. The beryllium industry has never been put to a test on this subject, but has been and still is confident that substantial increases in the supply of beryllium can be made available as uses develop.

According to United States Bureau of Mines releases, beryllium constitutes 0.0005% to 0.0006% of the earth's crust, and is found in over 30 minerals. This compares with boron, planned for high volume use in high energy fuels, which represents 0.001% of the earth's crust (the known reserves of beryllium being approximately one-half those of boron). At present, beryl ore is the only mineral used by industry as a source of beryllium.

Scarcity is a problem of getting sufficient beryl ore, and of producing enough beryllium to supply all needs.

Current annual consumption (1957 averages) of beryl ore is approximately 6,000 tons. In 1954 the United States Bureau of Mines reported as follows: "Future beryl-supply prospects appear favorable. Estimated reserves in Brazil, the largest beryl-producing country, have been increased recently, and Geographical Survey Circular 309 estimates beryl reserves of the tin-spodumene belt in North Carolina at 823,000 tons, nearly three times the amount formerly estimated. The United States Bureau of Mines is conducting metallurgical studies to develop methods of recovering by-product beryl from current spodumene mining operations."

With regard to production capacity for beryllium metal, it now appears that the two new plants designed for a minimum of 100,000 pounds a year each, have sufficient capacity to supply all near future beryllium requirements.

The 1957 Annual Report of the National Advisory Committee for Aeronautics had this to say about beryllium:

". . . In all such high-energy fuel studies, consideration of the availability of a material is inescapable. Beryllium, for example, ranks at the top of a chart showing the relative ranges for a ram-jet missile flying at a Mach number of 3 at an altitude of 70,000 feet. And yet beryllium is seldom given more than briefest consideration because of lack of availability. In a recent single year, hardly more than 5,000 metric tons of beryl ore, imported mostly from Brazil, India, and Argentina, were used in the United States. Moreover, beryllium is highly toxic. Thus, beryllium or its compounds, however attractive they may be based on performance, is not being considered as a possible aviation fuel. . ."

It is hoped that the substantial increases being made in production capacity for beryllium will help this situation. More stimulating programs on beryl ore procurement and more effort behind making domestic low grade beryl ore usable to industry will give beryllium the additional consideration it should have. If these things are done, then perhaps beryllium will be evaluated as a high energy fuel source strictly on a performance basis.

With regard to the toxic comment above, this will be covered later.

A comparison might be made at this point to a situation which existed within the Atomic Energy Commission on uranium during the early days of the Manhattan Project. When it was first realized that uranium would be required in quantity, everyone threw up their hands and said "We can't get enough—the ore is too scarce!" However, the AEC went ahead and built a processing mill that would have consumed the entire country's supply of uranium ore in 8 months. A well organized program of stimulation and incentive soon brought out all the uranium ore that was needed. Who knows what results could be obtained in the beryllium industry with the same intelligent effort?

Establishment of inventories or stockpiles of beryllium metal can serve as a backstop against any surge in requirements from either nuclear or structural aircraft sources. This subject is being reviewed by several government agencies.

(3) *Brittleness* (*Ductility*)

A third problem which has deterred beryllium metal from wider usage is that current grades of beryllium are not completely ductile. When we say beryllium is brittle we mean it lacks "three-dimensional" ductility, for obviously beryllium metal sections in reactors must carry some mechanical loading. Ways must be found to make beryllium more ductile. This lack of ductility prevents the economic quantity fabrication of beryllium by conventional metal working techniques, and the solution to this problem is the primary objective of most of the research work being conducted on beryllium today. (Other research is aimed at establishment of physical and mechanical data on beryllium as well as development of manufacturing methods.) However, the picture is not quite as black as it would first appear.

Beryllium is already being used for structural parts. The problem of brittleness is one of degree only and does not prevent the use of present grade beryllium in aircraft and missiles. Guidance system sections have been designed and are now being made of beryllium. Other parts of guidance systems using beryllium are on the drawing boards. Another possible use is best covered by a recent United States Bureau of Mines release stating: ". . . Beryllium is one of the most promising metals for missile nose cones and may be the answer to the problem of re-entry into the earth's atmosphere. . ." In other words, the present grade of beryllium is usable—but if further research and development are successful and give us methods for producing beryllium metal with greater "three-dimensional" ductility, substantially larger fields of application will result.

(4) *Toxicity*

Another great barrier to wider use of beryllium metal and beryllium oxide has been the health hazard associated with improper handling. Apparently, either through fear of toxicity or lack of knowledge that beryllium can be handled safely with proper controls, many fabricators of component parts have not taken advantage of the opportunities of working with this new metal. There is no question about the possible toxic problem in handling certain forms of beryllium and beryllium oxide. However, today many government installations—and more recently an increasing number of industrial concerns, fabricators of parts—such as precision machining, instrument manufacturers and aircraft companies have seen fit to learn more about beryllium and are now fabricating beryllium parts in their plants. It is hoped that this family will now grow rapidly—as there is still a need for more fabricators.

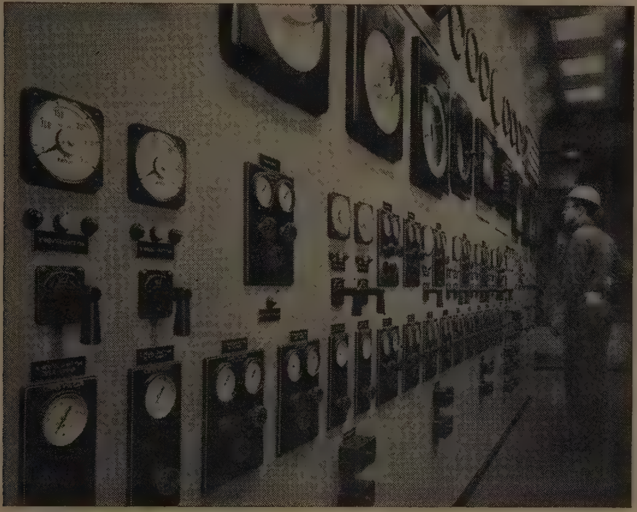
THE NEED FOR FABRICATORS

Another situation, not so much a problem as an opportunity for other industries, is the need for additional fabricators of beryllium metal components to supply both nuclear fields and non-nuclear markets.

While currently there are sources of machined beryllium shapes for nuclear end use, there is today a definite additional need for fabricating sources of beryllium parts, not only aircraft prime and subcontractors, but companies whose normal business is forging, precision machining, stamping—manufacturers of fasteners, instrument manufacturers and many others. This statement does not mean there are now large volume demands for beryllium metal parts with no suppliers. It does mean that general interest in beryllium as a new material is advancing very rapidly and that the result of current research will create future demand for sources of beryllium components. If beryllium is to be a widely used metal, the type industries described above and others must become familiar with the properties of beryllium and learn how to work with beryllium, develop cost data, and gain other experience with the metal.

CONCLUSION

New markets must be developed before any benefits can be expected to reduce costs of beryllium to the nuclear user. Engineers who are considering the use of beryllium and beryllium oxide in nuclear power reactors over the next five to ten years have reason to look forward to better grades of beryllium, better manufacturing techniques and lower costs.



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ALLEGHENY LUDLUM STEEL CORPORATION

PITTSBURGH, PENNA.

At a meeting of the Board of Directors of Allegheny Ludlum Steel Corporation held today, August 28, 1958, a dividend of fifty cents (50c) per share was declared on the Common Stock of the Corporation, payable September 30, 1958, to Common stockholders of record at the close of business on September 12, 1958.

S. A. McCASKEY, JR.
Secretary

BOSTON EDISON COMPANY

Preferred Dividend

A quarterly dividend of $1.07 per share has been declared payable on the first day of November 1958 to holders of record at the close of business on October 10, 1958 of the Company's Cumulative Preferred Stock, 4.25% Series.

Preferred Dividend

A quarterly dividend of $1.20 per share has been declared payable on the first day of November 1958 to holders of record at the close of business on October 10, 1958 of the Company's Cumulative Preferred Stock, 4.78% Series.

Common Dividend No. 278

A quarterly dividend of 70 cents per share on the Common Stock of the Company has been declared, payable on the first day of November 1958 to stockholders of record at the close of business on October 10, 1958.

Checks will be mailed from Old Colony Trust Company, Boston.

ALBERT C. McMENIMEN
Treasurer

Boston, September 22, 1958

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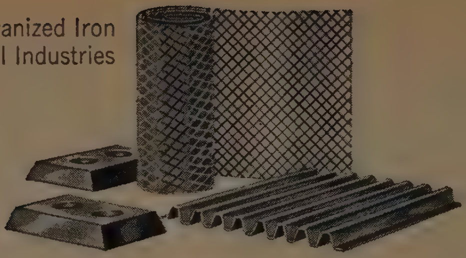

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Through our diverse facilities, Eagle-Picher is an outstanding "manufacturer's manufacturer" serving such industries as paint, automotive, ceramics, food packaging, farm equipment and agriculture, electronics, petroleum, appliances and many others. Over the years we have proved in these industries that our manufacturing and research techniques successfully supplement those of our customers.

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Coal's Comeback! An Evaluation

JOSEPH R. FORSYTHE

THE LONG LOOK AHEAD embodied in this text is based on the hope that in these years we will demonstrate our maturity as a nation and blaze new paths away from war, depressions and inflation and into greater prosperity, with an almost limitless potential for production, which basically is dependent on energy sources. Here we discuss bituminous coal, the energy source on which our industrial revolution was based, and which triggered amazing advances in our standard of living.

For the next seven years, 1959-1965, the bituminous coal industry could establish such remarkable records as: (a) 66 2/3% increase in tonnage (420 to 700 million tons); (b) 50% increase in production efficiency (11 to 16.5 tons per man day); and (c) a healthy increase in average realization, and a rapidly improving situation in generation of capital and in net profits.

By 1975, coal's horizons could expand to one billion tons per year, and by the year 2000 it is possible to achieve an annual level of some two billion tons.

First assumption is the continuation of the tremendous fast pace of growth in energy demand, a trend which dates back to the middle of the nineteenth century. This trend is based on population growth and technological developments which make more energy available per capita.

Second assumption is that in the years immediately ahead coal will gain more than it loses in areas of competition and of developing technology. The years ahead could see events unfold along such lines as these:

1—Decline of participation in expansion of hydro power.

2—Conversion trends of the past four decades will be reversed, particularly in industrial plants, with possibilities of a rapid pace of reconversion from gas and oil to coal developing early in the 1960's.

3—The Free Countries of Europe, Asia, South America, as well as Canada, will look to the United States for coal, particularly metallurgical coal.

4—Nuclear power will have an impact of no more than 5% by 1975 on the fuel markets of coal, oil and gas, but within a few more decades may energize most all additional expansion.

5—New direct iron ore reduction processes may slow the demand for metallurgical coal, with a sizeable share of expansion accounted for in the 1965-1975 period and both expansion and replacement after 1975.

6—Burgeoning petro-chemicals will turn to coal for significant percentages of raw feed-stock, and for fuel to produce heat, steam and electricity.

7—The natural gas industry will require synthetic high Btu pipe line gas, requiring completely new types of high capacity coal mines.

8—Low temperature carbonization of coal will not only expand tonnage demands, but the growth of chemical by-product markets will significantly increase the realization per ton.

9—Hydrogenation of oil will become a necessity, with oil shale, lignite and bituminous coal required in tremendous tonnages.

COMPETITION SEEN ON DECLINE

Competition from other native fossil fuels, oil and gas, which for the past four decades has been a major deterrent to coal industry growth, will inevitably decline in the years ahead. The reverse trend, now in the embryo stage, which will see coal replacing oil and gas in competitive markets as a boiler fuel, is foreshadowed by the record of new discoveries in relation to annual production. This reserve situation combined with increasing demand must inevitably result in native production of oil and gas seeking higher price markets, and then—first gas and then oil will look to oil shale, lignite and bituminous coal as the basic source of their products.

Competition from imported oil and gas, however, is a different story, with seemingly plentiful supplies of both available over the long term. For instance, a recent Canadian study foresees the possibility of exporting to the U.S.A. some 3½ trillion cubic feet of gas per year by 1980, which is in the neighborhood of 30% of today's annual United States production. However, just as in the case of our oil and gas forecasts, it is acknowledged that much of the gas required to meet such a forecast is as yet undiscovered.

The big oil question, of course, is in the Eastern Hemisphere, where a large percentage of the world's known oil reserves are concentrated. Political and financial developments will greatly affect the rate of growth of production and its effects on the industrial economies of Europe and North America. Certainly the greatest coal competitive impact will be in Europe. Most certainly the United States dare not depend on such a source for any significant portion of its energy requirements.

Growth markets immediately ahead are in two areas: (1) as a boiler fuel; and (2) as a raw material. As a boiler fuel, expanding markets include electric utilities, industrial plants, institutional and commercial buildings. As a raw material, expanding markets are in the areas of steel and cement production, and on ahead dramatic new markets are envisioned in developing technological processes whereby coal will become the basic feed-stock for the gas, oil and chemical industries.

Most dynamic growth is foreseen in the electric utility market, where coal seems most certain to expand its percentage of participation. Most exciting prospect is coal's

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invasion of territory historically fueled by oil and gas. Today, utilities in our major oil and gas producing states are convinced that coal will be both economic and necessary for expansion within the next three to five years. Florida and California will join them in the trend toward coal. In all other areas of the U.S.A. the percentage of coal used under utility boilers will increase. The same trend is apparent in Canada. The Hydro-Electric Commission of Ontario is now building thermal stations, with triple fuel (coal-gas-oil) firing, and present indications are that the major reliance will be on coal.

Reliable forecasts of electric utility growth show 65% by 1965, and then another 100% in the next ten years. Keystone (June 1958) in a prediction, region by region, forecast coal growth of 85% by 1965 and then 90% additional in the next ten years. This prediction assumed a continuing growth in the utilities generation efficiency, a decline in hydro's share from about 20% to about 11% by 1975, with both gas and oil showing heavy tonnage gains, but no growth in percentages. Nuclear power, it is now almost certain, by 1965 will generate no more than 1/238th of our electricity, and as yet no signs are apparent that would rule out estimates of 4% by 1975.

NEW INDUSTRIES FOR COAL

Few detailed statistics are available concerning coal's "other industrial" and retail market. From the Bureau of Census, however, we find that such industries as food, textiles, paper, chemicals, glass, metals, machinery and transportation equipment changed fuel sources in this pattern between 1947 and 1954: Coke and coal, down 17.5%; oil, up 11.1%; gas, up 47.6%; electricity, up 81.8%.

In the retail dealer market, statistics show a loss of 50% from 1947 to 1956. A projection of such trends can only conclude that within "x" number of years coal will have no markets in these areas. However, let us look for indications of changing trends. Most significant is the fact that changing economic conditions are bringing new industries into coal's market picture. Most exciting example is the amazing aluminum, chemical, nuclear, coal industrial complex on the Ohio River, with the prospect that other such complexes will develop in other favorable areas, where fuel and water reserves are attractive. While most of the coal used here will be in the utility market, yet at least one of the new aluminum plants (Warrick, Ind.) will operate its own power plant. Aluminum, titanium and zinc are three of coal's newest friends, with each industry finding that the coal-water based new plants offer significant economies.

In the general area of industrial plants, requiring 50,000 pounds of steam per hour capacity and up, coal has a real potential of increasing its market. Keystone is currently conducting a survey of coal buyers in this area and the few scattered returns to date, although representing widely spread geographical areas, seem to be indicating a pattern of growth of about 10% by 1965 and another 10% by 1970.

The most exciting potential is in the area of new boiler installations. It is almost a certainty that the years ahead will see more new plants, further expansion and extensive modernization. Coal must be the favored fuel. Some signs of this swing back to coal are already apparent. A detailed study of reports of new plants shows that coal-fired equipment installed, 1953 to 1958, served a larger percentage of total capacity reported than gas or oil. The 1958 survey, in particular, turns up some interesting facts, which are indicative of the oil-gas situation as discussed in the foregoing paragraphs on utilities. Single fuel oil-burning industrial plants appeared only in the New England and Mountain regions, while single fuel gas-burning plants showed up only in the East Central region. The percentage of capacity involved, especially in the case of gas, was down sharply from that of the past five years. Dual fuel gas and oil plants showed a very sharp decline in the Middle Atlantic, South Atlantic and East North Central regions, but a very sharp increase in the West South Central and Pacific regions. It seems clear that traditional coal burning areas are again placing more dependence on coal, while the traditional gas or oil burning areas are hedging on their dependence on either. Another significant fact is that dual fuel coal-gas installations showed up in both the West North Central and Mountain regions for the first time in this six-year period. One example that may be indicative of a developing trend was the choice of coal for an institutional boiler plant in northern Florida.

COAL FOR CONVERSION

It is, however, in the realm of conversion that coal's greatest promise lies. Just as the dominating trend in the energy field has been, for some decades, the conversion of basic energy reserves, so in the next several decades one of the greatest growth areas will be in conversion of coal into pipe line gas, oil and chemicals.

As these three new industries begin to appear on the horizon, another technological development, direct reduction of iron ore, will be displacing coal in one of its growth markets, the manufacture of steel.

The steel industry is coal's second largest market. In fact, since the inception of the industry, it has been dependent on coal, along with iron ore and limestone.

Until recently, a generally accepted rule of thumb ratio was one ton of coal per ton of steel. Now the steel industry, because of high capital costs of new coke ovens and blast furnaces, is making every effort to increase the efficiency of production. Beneficiation of ore through pelletizing and sintering processes, increased blast furnace areas and better use of air are resulting in more steel per ton of coal; and this trend will continue. As the use of metallurgical coal per ton declines, however, it is expected that expanded steel production will continue to up the total requirements year by year, excepting low cycle years. One hundred and forty-five million tons of steel production by 1965, with 110 in 1959 and 130 by 1962, is a distinct possibility.

STEEL MAINTAINS 50 YEARS OF COAL RESERVES

Traditionally, steel has produced a large percentage of its coal requirements and even today most major steel producers maintain this policy and also maintain coal reserves in the magnitude of 50 years or more. The commercial operator, therefore, participating only in the "top" area of demand, consequently suffers more than steel in low cycle years, but also rebounds faster on the uptrend.

Most significant trend is that which points to steel policies looking toward conservation of their metallurgical coal reserves with no further capital invesments, for the present, in new coal mines. The impact of this on the commercial coal operators may be judged from past records and future projections.

A study of Keystone's records on "captive" production, compared with the record of steel production, and coal used by the steel industry for coking, indicates that such purchases may have followed this pattern: 1943, 10 million tons; 1948, 15 million tons; 1953, 25 million tons; with the year 1955 setting a high of 30 million; while the low cycle year of 1958 will probably drop this figure to 15 or 20.

The developing pattern will probably result in an increase to 25 million tons in 1959, 35 million by 1962 and possibly 45 million by 1965. Such demands will require that the coal industry open new high capacity, highly efficient mines. It is rumored that negotiations are already in progress and that new mines are in prospect and that some holdings of metallurgical coal reserves may change hands. Such new mines would be based on firm long term contracts, assuring stable production rates

Percentage of metallurgical coals coming from Districts 7 (low volatile) and 8 (high volatile) in Kentucky, Virginia and West Virginia will continue to increase for the simple reason that the steel companies find it necessary to conserve their remaining reserves of high volatile Pittsburgh Seam coking coal. It is quite significant to note that while coal boasts reserves in the magnitude of some 2,000 years, the reserves of high-grade metallurgical coals are in relatively short supply and that the reserves situation in low volatile coals is tighter than in high volatile.

Industry-wide statistics on low and high volatile coals are not available, but possibly Keystone's records on captive production are indicative. For 1957, production of coking coal by states, by some 26 steel and chemical companies, in million tons, was: Pennsylvania, 30; West Virginia, 18; Kentucky, 11; Alabama and Tennessee, 9; and Colorado and Utah, 4. Of this 72 million tons, about 12½ were low volatile coals from central Pennsylvania and southern West Virginia.

For various reasons, percentage of low volatile coals in coking is increasing, and this combined with the relatively low reserve picture creates a favorable situation for those companies holding such reserves.

Steel industry coal needs extend beyond the requirements for coking. It is in this area of non-metallurgical coal that the greatest percentage increase in demand will come. The developing techniques in pelletizing and sintering, while reducing the need for metallurgical coal, demand sizeable tonnages of steam coal for processing and for the generation of electricity.

NEW PROCESS TO REQUIRE COAL

New technological developments in the area of direct reduction of iron ore, thus by-passing the coke oven and the blast furnace, will undoubtedly begin by 1965 to account for further expansion in steel capacity. The most significant aspect is that this process permits the industry to locate its plants where consumption potentials are the greatest. As growth of this process develops, and demand for metallurgical coal no longer expands, the commercial operator may still find his market growing, because of possible contraction of steel's coal production. Then, too, this new process will require a great deal of fuel and it appears that coal will be required in most cases. It is estimated that steam coal requirements will run at from one-half to two-thirds tons of coal per ton of steel.

COAL'S STRONG POINTS

Our coal industry is well equipped to handle the expanding markets of the next few years and, beyond that, the gradual evolution from an industry supplying fuel to an industry serving the nation as the basic source of our developing civilization's most necessary materials, such as oil, gas and chemicals. Some of coal's strong points are:

1—Its amazing record in increase of production efficiency. This is one of the most significant reasons for its emerging position as the most economic fuel in most areas of the U.S.A., and for the bright potential of expanding markets in Canada, Europe, Asia and South America. It is quite significant that our skilled machine operators and engineers produce ten or more times the tonnage per day mined by European mine workers. In the U.S.A., average tonnage per man day doubled from 1940 to 1956, and 1957's final figure showed a healthy increase of 3%. This tremendous accomplishment is the result of the industry's continuing high rate of investment in new equipment and its continuing challenge to equipment manufacturers to produce more efficient, higher capacity machines. Indicative of ability to continue this efficiency increase at a fast pace is the fact that most of the modern high capacity mines exceed the industry average by a wide margin.

2—Its unique labor picture. The United Mine Workers of America have long been a major factor in the area of production efficiency. The UMW have consistently insisted that increased efficiency was the key to better living standards. Therefore they have encouraged, and even demanded, a rapid pace of mechanization and automation. The UMW are also blazing new trails in the area of cooperation with the industry to expand markets. First results were seen in the formation of American Coal Shipping, a joint venture of coal producers, railroads and the UMW in the export market. Today, the UMW is pioneering in the market area that presents coal with its biggest challenge, that is, in the industrial and institutional boiler market. One of the first instances of this cooperation and one of the first victories is in the area of U. S. Army and air field bases.

3—Its unquestioned abundance of reserves. This is the dominant factor in the emerging picture of growth, particularly since present competitors for fuel markets, hydro, oil and gas, have immediate problems, and since the emerging competitor, nuclear fuel, must depend on coal for its development, and for quite a few years will consume more coal, converted into electricity, than it replaces in this same market. Many of our coal companies own reserves totalling billions of tons, sufficient for over one hundred years at their present rate of extraction.

These tremendous owned reserves can now be thought of in the nature of hidden assets, since most companies carry reserves on their books at prices paid, even those acquired more than fifty years ago. On ahead, there seems little doubt but that the value of these reserves will increase with the increasing pincers effect of increasing demand and dwindling reserves of all fossil fuels. Some coal land companies also own tremendous reserves and these now face the potential of increasing value with opportunities developing for sale or lease of sizeable acreages.

This trend toward increased value of coal in the ground, combined with a more rapid depletion of the coals mineable under today's conditions and prices, will quite naturally result in higher depletion allowances.

BIGGER AND STRONGER COMPANIES

Some strong points of some of the commercial operating companies are:

1—The record of growth of companies and concentration of percentage of total production. Keystone's records divulge two important trends:

(a) In 1957, 75 companies each produced more than 1 million tons, and their total production was 65.8% of the national total. Ten years ago, 107 companies produced 57.0% of the total. The long term trend towards fewer companies and larger percentages is quite apparent.

(b) In 1957, 15 coal producers, whose stock is available to the public, each of whom produced more than 3 million tons, were responsible for 32% of the national total, as compared with 18% in 1947 and 15% in 1941. It is significant to note while all of these were within the top twenty-one commercial operators in 1957, only eight of them ranked that high in 1941 and only eleven in 1947.

2—The emergence of professionally managed and publicly owned growth companies. This has resulted in a strengthening of coal's pricing-policies. Probably one significant result is now being seen in the fact that coal prices have remained more stable throughout the 1957-1958 recession, in contrast to almost chaotic conditions that emerged at various times in the past few decades.

3—The record of significant improvement in such areas as (a) net income (b) net earnings per ton of production (c) dividends paid and (d) per cent return on total investment. A study of reports from a number of companies leads to this conclusion.

NEW GROWTH AREAS

The emergence of coal as the major base for utility and industrial expansion in the years immediately ahead will result in new geographical areas of growth. Developing trends towards coal field sites, use of pipe lines, waterways and high voltage transmission of electricity will trigger amazing new industrial complexes, such as the development we are witnessing in the Ohio River Valley. The combination of coal and water for plant use and water for transportation of finished products will be the dominant factor in many plant location decisions.

Some of coal's fastest growing markets may be in (a) the Rockies; (b) parts of the Tennessee River Valley; (c) the South Atlantic, particularly Alabama and Florida; and (d) the St. Lawrence River Valley in Canada's highly industrialized area, particularly that part that borders Lakes Erie and Ontario.

Some of coal's leading privately owned companies will turn to public financing to meet expansion needs. The trend towards mergers will continue and will result in formation of new corporations, with significant changes in marketing, financing and management concepts.

Some of coal's leading producers will open up new territory (to them), to secure foot-holds in new geographical areas and also to diversify their markets.

Nuclear energy dominates the imagination of the world today with its bright promise of abundant power for the peoples of all countries, even those that are today undeveloped.

All developing programs looking towards improving standards of living for all the world's peoples, and consequent lessening of tensions, must be based on this premise. Not to be overlooked is the fact that the transition cannot be made except in this era of fossil fuels, and that coal is and will be the major fuel and substance from which today's dreams can be converted into reality.

AIR REDUCTION
Company Incorporated
AIRCO 166th CONSECUTIVE
COMMON STOCK BIVIDEND

The Board of Directors has declared a regular quarterly dividend of 62½¢ per share on the Common Stock of the Company, payable on December 5, 1958 to holders of record on November 18, 1958, and the twenty-eighth regular quarterly dividend of $1.125 per share on the 4.50% Cumulative Preferred Stock, 1951 Series, of the Company, payable on December 5, 1958 to holders of record on November 18, 1958.

October 29, 1958
T. S. O'BRIEN, *Secretary*

Dividend No. 57

Interlake Iron Corporation has declared a dividend of 10 cents per share on its common stock payable Sept. 30, 1958, to stockholders of record at the close of business Sept. 15, 1958.

Vice President & Treas.

Interlake Iron
CORPORATION
CLEVELAND, OHIO
Plants: Beverly, Chicago, Duluth, Erie, Jackson, Toledo

AMPHENOL
AMPHENOL ELECTRONICS CORPORATION

At a meeting of the Board of Directors of Amphenol Electronics Corporation held today a quarterly dividend of thirty cents per share was declared, payable October 31, 1958, to the shareholders of record at the close of business October 17, 1958. The transfer books will not be closed.

Dated at Chicago, Sept. 23, 1958.
FRED G. PACE
Secretary & Treasurer

Price-Earnings Ratios May Be Too Low!

A. HAMILTON BOLTON

> "Not since the 'New Era' dream blew up in 1929 has so little emphasis been put on current price-earnings ratios and dividend yields. The idea in 1929 was to get rich quick on margin buying—so disenchantment came fast at great cost. It is different now. The idea is to buy stocks for the long pull, regardless of price; and just wait for growth and inflation to pile up the capital gains. There is no chance of sudden disaster in this policy—but disenchantment no doubt is ahead as investors discover that this market rise has run too far ahead of the supporting facts; and that, in terms of actual rewards, 'long pull' is a great deal longer than many had imagined."

THERE IS A VERY GENERAL FEELING, expressed frequently in conversation among analysts today, as well as in various financial columns and services, typified by the above recent quotation from a leading investment journal that current Price-Earnings ratios are too high. Thus there is room for some thought of a contrary nature; to wit, that actually Price-Earnings ratios are probably too low.

The case for P/E ratios not being too high at present can perhaps be sewed up by a careful look at the record under varying economic conditions. The case for P/E ratios being too low today rests on the first case, plus the significant change in the quality of today's corporation earning power, as evidenced by considerably higher depreciation charges and hence cash earnings, *and* the little-considered "automatic stabilizer" of the 50% corporate income tax.

COMPARISONS WITH 1929 ARE NOT VALID

Analysts who feel that stock prices are too high often use the argument that current P/E ratios of approximately 18 to 1 are comparable to the very high ratios in such peak periods as 1929, 1937, 1946, etc. Their points of comparison are always known peaks in past bull markets. Their case however inevitably falls apart *if* today's juncture in the market does not prove in retrospect to have been a comparable cyclical peak; for then there is no valid reason for comparing today's P/E ratios with such peak periods in preference to comparing them with periods other than peaks.

Now let us look at the record. First, it is generally agreed that the economy has turned around smartly in mid-1958, that we are moving out of the recession, and that for the next few months at least, we can count on: (a) rising government expenditures on a cash basis; (b) the end of inventory liquidation, itself a positive factor; and (c) even the possibility of some inventory accumulation. In addition some economists are forecasting the end of the decline in capital expenditures as early as the last quarter of 1958. The general background then is one of recovery, and it is against this backdrop that we have witnessed a substantial rise in stock prices, and in P/E ratios in recent months.

RECOVERY PATTERNS

Logic suggests therefore that the periods with which to compare today's P/E ratios should not be those of 1929, 1937, 1946, and 1956 — when stock market peaks were being made—but periods immediately following significant turn-arounds in business after a recession or slump. For this purpose let us examine such periods as 1934-37, 1938-39, and again 1944-46. Let us use the new Standard and Poor's Industrial Index (1941-43 = 10) which is considered a more "scientific," if less well-known index, than that of the Dow Jones.

Table I

Quarterly P/E Ratios, Prices and Earnings
Standard & Poor's Industrials
1935-37

		P/E (a) Ratio	Price	Earnings: 12 Months Moving Total
1935	I	17.0	$ 8.16	$0.48
	II	19.0	9.69	0.51
	III	20.9	11.05	0.53
	IV	19.4	12.77	0.66
1936	I	20.3	14.25	0.70
	II	18.3	14.09	0.77
	III	18.1	15.15	0.84
	IV	17.9	16.50	0.92
1937	I	17.1	17.39	1.02
	II	12.4	15.07	1.22

(a) Ratio of End of Period Price to 12 Months Moving Total Earnings.

Source: Standard & Poor's Daily Stock Price Indexes, The Standard "500."

In 1935, earning power was recovering from the depression, prices had been stabilized at relatively high P/E ratios since 1933. In the 2nd quarter, stock prices began to move forward in a steady way similar to later recovery periods such as 1954. Throughout all the ensuing quarters prices rose, earnings rose, and P/E ratios remained high at between roughly 18 and 21 times. By late 1936, however, earning power was rising more rapidly than stock prices. Thus 12-month moving totals of earning power were up from $0.77 to $1.22 between the second quarters of 1936 and 1937 or 58%, whereas stock prices were only up 7%.

Thus in a recovery period it is normal that stock prices should command high P/E ratios provided earning power is expected to expand.

A. Hamilton Bolton, a senior partner of the Canadian investment firm of Bolton, Tremblay & Company, is well known as editor of the investment service, the Bolton-Tremblay Bank Credit Analyst. A founding director of the Montreal Society and its president, 1954-55, he is now executive vice president of the National Federation of Financial Analysts Societies and will be host chairman of the 1959 Analysts' Convention in Montreal next June.

The pattern after the 1937-38 recession is similar as Table II shows.

Table II
Quarterly P/E Ratios, Prices and Earnings
Standard & Poor's Industrials
1938-39

		P/E Ratio	Price	Earnings: 12 Months Moving Total
1938	II	15.2	$11.44	$0.75
	III	20.7	12.29	0.59
	IV	23.3	13.07	0.56
1939	I	17.0	10.74	0.63
	II	15.5	10.55	0.68
	III	17.6	12.71	0.72
	IV	15.1	12.17	0.81

Over-all from beginning to end, prices and earnings kept in line, but prices moved on ahead of earnings during the early stages of the recovery in the period prior to World War II which began in September 1939.

Despite the wartime psychosis, earnings continued to expand without interruption until the 3rd quarter of 1941. Thereafter they fell off back to the 1939 level in 1943, 1944, 1945 and 1946 under the impact of war controls and excess profits taxes. Nevertheless, prices rose steadily despite the lack of immediate growth in earnings. From the last quarter of 1943 to the last quarter of 1945 prices rose from $11.61 to $16.79 and P/E ratios from 14.4 to 19.7 times.

Again it is also interesting to note that from the 3rd quarter of 1953 to the 3rd quarter of 1954, a recovery period following the recession of 1953, prices rose from $23.32 to $33.28, or 43%, whereas average earning power was relatively stationary at $2.74 vs. $2.72; thus P/E ratios rose from 8.6 to 12.1 or almost 50%.

HIGH PRICE-EARNINGS RATIOS NORMAL

This documentation then shows clearly that in any recovery period P/E ratios tend to be either high all the way through or to rise substantially, and that later when earning power begins to catch up, prices do not continue to rise proportionally.[1] It points out clearly too the fallacy of assuming in the early stages of any recovery that prices are too high, because P/E ratios seem out of line.

Part II of the case that today's P/E ratios may well be too low depends on an examination of the quality of earning power. We are all subconsciously familiar with the concept that today's earning power is well buttressed by very much higher depreciation and other non-cash charges, and that business today is writing off to expense far heavier research expenditures which in fact take on some of the aspects of capital rather than recurrent annual expenditures. Thus we know instinctively that today's "cash" earnings are better than yesteryear's.

TODAY'S EARNINGS NOT QUANTITATIVELY COMPARABLE

On a broad basis, Department of Commerce estimates tell us that corporate profits after taxes are now in 1958 backed by over 100% of prior depreciation charges of a no-outlay type, whereas only a decade ago depreciation only amounted to one-third of net after taxes. But a major stabilizing element that has not been given the attention it should is the current high corporate tax. For the sake of argument, let us make some comparisons between a "no corporate tax" economy and a "50% corporate tax" economy. These round figures will point out the differences between now and the 1920's and 1930's if not with decimal point accuracy at least sufficiently symbolically to prove an interesting point.

Let us further assume that in these two economies we have the same type of corporation operating in the same demand/supply conditions, i.e. where the corporation is going to be able to obtain the same approximate rate of return after taxes on the same approximate sales (and capital). Nor will we make the comparisons too rigorous.

	Economy A (No Corporate Tax)	Economy B (50% Corporate Tax)
Corporate Sales	$100	$110
All expenses	90	90
Net before taxes	10	20
Corporate taxes	..	10
Net after taxes	10	10

On the same approximate amount of sales, the two corporations in different tax economies have come out with about 10% on sales, and capital, since we assume these are roughly similar.

The fact that sales under Economy B are $110 versus $100 is some measure of the fact that the government's tax-take will be put back into circulation; in other words that the tax burden will be shifted forward onto the consumer.

Now let us assume two differing conditions, each in the two economies. Sales increase and decrease roughly 10% ($10), with no change in over-all expenses.

	Economy A		Economy B	
	Up $10	Down $10	Up $10	Down $10
Corporate Sales	$110	$90	$120	$100
All expenses	90	90	90	90
Net before taxes	$ 20	..	$ 30	$ 10
Taxes	..	..	15	5
Net after taxes	$ 20	..	$ 15	$ 5

CORPORATE TAX STABILIZES EARNING POWER

It can be seen that under two similar conditions (a rise of 10% approximately and a similar decline in sales), the profit swings under Economy B have been widely attenuated. Earning power therefore under the high corporate tax burden is obviously much more certain, and much less marginal. Is it not rational therefore that this type of earn-

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(1) The reader may like to peruse further evidence on P/E ratios. No better source material can be found than various articles by Nicholas Molodovsky in back issues of The Analysts Journal, e.g. "Stock Prices and Current Earnings" Aug. 1955, "A Theory of Price-Earnings Ratios", Nov. 1953.

ing power, other things being equal, should command a higher multiplier or P/E ratio than the more marginal situation of Economy A? Is this not the same factor which gives a utility a better "investment rating" than a marginal copper mine?

The fly in the ointment of course is that someone has to take the rap. In the case of Economy A (in essence the economy of the early 20's and 30's) it was the corporate shareholder who absorbed all the loss, and also got all the increase. In Economy B (which is in essence our present economy) we see that the shareholder has done much better under poor conditions. He has actually received the equivalent of a "transfer payment" from the government. Of course if the government were always to adjust its expenditures minutely to its tax-take then the economy would automatically adjust itself to the decline in profits by having the government's hand-outs cut off and thereby would have to liquidate itself more than the 10% assumed in order to arrive approximately at the profit status of Economy A. But this does not happen. Instead the governments of today run temporary (and perhaps permanent) deficits and do not balance income with outgo in the short run. Given this fact, however, we can see that the whole mass of corporate shareholders today have gained an effective stabilizer. Not only does the government share in any decline in profits, but in effect it turns around and gives the shareholders a nice transfer payment in much the same way as it gives out unemployment relief payments. These transfers of course are less direct but they result in holding up the volume of national sales by temporary deficit financing for the benefit of the stockholder.

THE ECONOMY ADJUSTS ITSELF

Of course the stockholder, in a sense, gives it back when things are good. But since earnings grow just as fast, he does not lose anything in the long run as the transition from zero tax to 50% tax is behind him. This is true because the economy adjusts itself to the increased tax burden of from 0% to 50% by raising prices of goods and services to the public.

There is an important corollary to the argument concerning corporate taxes. As long as we stick to the fixed percentage type of tax, and do not include excess profits types of taxes, we as corporate shareholders would be very unwise to press for a significant downward revision of corporate taxes. True, we would gain a short-term windfall, but at the expense of obtaining a very considerable return of instability in our earning position. Let us continue to enjoy rather our preferred position as a beneficiary of a benevolent government.

Here then rests our case that today's Price-Earnings ratios may actually be too low. First, we undoubtedly have a better quality of cash earnings today than in any period in the 20's or 30's with which so many analysts are wont to make comparisons of P/E ratios. Secondly it is quite normal and even inevitable that periods of recovery out of recession should be accompanied by high P/E ratios. And thirdly the 50% corporate income tax economy of today lends a great deal more stability to earning power without however affecting its rate of growth. For our book, this should be worth a substantial increase in the earnings multiplier or Price-Earnings Ratio as compared to similar conditions under a corporate tax-less or low-tax economy.

The trouble is of course that we have been so used to low earnings multipliers caused (a) by World War II with all its controls and (b) by fear of a great postwar depression, that we have tended to overlook the forest for the trees. Perhaps, however, today's market conditions are pointing the way to the final realization that we may be able to have a bit more of our cake and eat it too.

STANDARD BRANDS
Incorporated

COMMON STOCK DIVIDEND

The Board of Directors increased the quarterly dividend rate to 65c per share. This dividend is payable December 15th to stockholders of record on November 14, 1958.

PREFERRED STOCK DIVIDEND

The Board also declared a dividend of 87½c per share payable December 15th to stockholders on December 1, 1958.

John B. Noone
Secretary and Treasurer

October 23, 1958.

RADIO CORPORATION OF AMERICA

RCA

Dividend Notice

The following dividends have been declared by the Board of Directors:

First Preferred Stock

87½ cents per share on the First Preferred Stock, for the period October 1, 1958 to December 31, 1958, payable January 2, 1959, to stockholders of record at the close of business December 8, 1958.

Common Stock

A quarterly dividend of 25 cents per share on the Common Stock, payable October 27, 1958, to stockholders of record at the close of business September 19, 1958.

ERNEST B. GORIN,
Vice President and Treasurer
New York, N. Y., September 5, 1958

OUTBOARD M MARINE

OUTBOARD MARINE CORPORATION

DIVIDEND NOTICE

A cash dividend of twenty cents (20c) per share on the Common Stock of the Company has been declared by the Board of Directors, payable November 25, 1958, to stockholders of record November 10, 1958.

H. M. FISHER, Secretary
October 29, 1958.

This high-grade concentrate, an oxide of uranium known as "yellow cake," is the end-product of Anaconda's uranium ore-processing plant at Bluewater, New Mexico.

A handful of URANIUM concentrate can make enough electricity to power your home for years

The material in these drums is "yellow cake." Uranium oxide concentrate is its technical name. It starts out as crude uranium ore at Anaconda's Bluewater, New Mexico, uranium mill. And it takes more than 100 tons of ore to make the yellow cake in just one drum.

After further processing, the material will be compressed into ceramic pellets about the size of a pencil eraser. Placed in the nuclear reactor of a power generating plant, each tiny pellet will produce enough energy to run a TV set for almost a year. In the Shippingport, Penna., plant of the Duquesne Light Company almost a *million* such pellets, weighing 12 tons, are in use—and a couple of dozen pellets will supply *all* the electricity used in an average home for three full years.

New uses for uranium are being discovered almost every day. Already *radioactive by-products alone* are saving industry an estimated half-billion dollars yearly.

To meet present and future demands for this wondrous element, Anaconda has developed millions of tons of uranium ore reserves in New Mexico. Through processes developed at Bluewater, New Mexico, Anaconda in a few short years has become the largest producer of uranium concentrate in the United States.

Leadership in the production of uranium concentrate is typical of Anaconda's versatility in contributing to America's growth and progress in many branches of industry.

The ANACONDA Company

The American Brass Company
Anaconda Wire & Cable Company
Andes Copper Mining Company
Chile Copper Company
Greene Cananea Copper Company
Anaconda Aluminum Company
Anaconda Sales Company
International Smelting and Refining Company

58253-A

Investment Opportunities in Electrical Equipment Industry

G. FUHRMAN NETTLES

THE LONG-TERM OUTLOOK for the electrical equipment industry is very favorable. The use of electricity is expected to double every ten years. With such a strong growth trend, those companies supplying equipment enabling the use of electricity should experience a high level of business over the foreseeable future. While the long-term outlook is favorable, intermediate influences have a bearing on the near term. Even so, these short-term trends are moderately predictable. With the long term clear and the near term understandable, many successful investment opportunities should present themselves.

Despite the favorable future, shares of the various companies within the industry sell at widely divergent appraisals of earnings. This suggests that certain conceptions of the companies and the industry exist which may or may not be valid. While there is no intention to discuss here the individual companies, an examination of the industry may tend to reinforce some of these conceptions and weaken others. With reasonable understanding of the sales breakdown of any specific company and a knowledge of the relationship of these products to the general levels of business, it seems possible to forecast some time in advance the change in the outlook of the given company. The timing of such a forecast would be relatively difficult and dependent largely upon the forecaster's opinion of general business conditions.

The electrical equipment industry can be divided into four groups based on end products. These are: generating equipment, transmission and distribution equipment, control and mechanizing equipment, and appliances. Generating equipment is that equipment which produces the electricity. This definition is intended to include all equipment used to place the electricity on the transmission lines. Utilities are the major purchasers of generating equipment but some industrial corporations produce their own electricity and are also buyers, as are the Armed Forces. Additionally some manufacturers include equipment such as turbines for ships in the heavy apparatus group.

Transmission and distribution equipment enables the delivery of the electricity to the user or to the device using the electricity. Hence, transmission equipment is purchased by utilities. Distribution equipment is bought by the utility to deliver electricity to the user's door. Industrial companies use the equipment to route electricity to machines as an example. Commercial customers use it to deliver electricity to offices. The equipment in homes is used to get the electricity to the outlet or appliance. Perhaps an analogy can be drawn between the human body's blood system and generation, transmission and distribution. The heart is similar to the generating plant. The aorta and similar larger arteries would be equivalent to the transmission system. The smaller arteries could be likened to the distribution system of the utility. The arteries within the lung, as an example, would be similar to the internal distribution system of the plant, office or home.

Control and mechanizing equipment as well as appliances are the final users of electricity. The group would include such items as electric motors, control panels, relays and timers.

Appliances are the residential end user of electricity. These may be sub-divided into the "white goods" group, consisting of large electric appliances such as ranges and washers, and electric housewares such as fans, fry-pans and toasters.

At the end of World War II, electric generating capacity was generally considered adequate. This was based on the feeling that generating facilities had supported a war economy and should consequently be able to support peacetime activities. From 1946 through 1948 additions to generating capacity were relatively small. Part of this low activity was due to the two- to three-year manufacturing lead time on heavy electrical equipment. Beginning in 1948, facilities were found to be inadequate and in the decade from 1948 through 1957 66,000 megawatts of capacity were installed. This was approximately 15% *more* than *the total capacity in use* at the end of 1948. During the same decade, while demand for electricity rose 134%, the Federal Reserve index of business was up only 37%. In the same period, the gross national product increased 69%. This comparison clearly indicates that the demand for electricity has far outpaced the growth of the economy. The following table compares specified periods, including the 1948-1957 decade, and indicates clearly that the growth in this demand for electricity was not limited solely to this ten-year period:

Electric Energy Sales vs. Federal Reserve Board Index of Business

	KW Hour Sales	F.R.B. Index
1953-1957	+ 45.9%	+ 6.9%
1948-1957	+134.3	+37.4
1940-1950	+136.0	+67.2
1930-1940	+ 58.5	+36.8

Sales of electric energy to all classifications of users, as indicated below, exceeded the growth of the economy. While the residential users are not the largest consumers of kilowatt hours, they provide the largest dollar sales for the utilities and probably require the largest transmission and distribution capital expenditures by utilities per customer, possibly excepting rural customers. Consequently, residential customers' needs have probably the most important effect on the electrical equipment industry.

G. Fuhrman Nettles, of Shearson, Hammill & Company, New York, is a research analyst specializing in electrical equipment and electronic stocks. He has followed this industry for over five years.

Sales of Electric Energy
(Millions of KW Hours)

	Residential	Rural	Small Light and Power	Large Light and Power	Other	Total
1957	147,000	4,450	95,200	285,100	22,250	561,000
1948	50,978	6,327	43,193	124,088	16,154	240,740
% Gain	+189	+81	+120	+129	+139	+134

Past increases in the home use of electricity are expected to continue unabated. Between 1948-1957 the average home's use rose from 1,563 kilowatt hours per year to 3,164 kilowatt hours in 1957 or 102%. There is no reason to foresee a decline in the continued increase in demand by the residential user. It is estimated that by the early 1960's, color television alone could add 2% to residential demand annually. The vast potential of the homes' demand seems almost limitless. The all electric home of today uses 10 times as many kilowatt hours as the average home. In the 1930's, the all electric "dream home" was conceived as using only 30% of today's all electric home. The average home of the future could use as much as 10,000 kilowatt hours per year with some homes using more than 25,000 KWH per year. There are many appliances which, in the future, should be vast consumers of electricity even without the home being all electric. As an example, once an appliance is installed it looses its luxury classification and future replacement is predicated upon necessity.

Demand by farm and industry should likewise show substantial increases. Estimated industry use of electricity is approximately 2,400 kilowatt hours per man per year. By 1975, this is expected to increase to at least 3,900 kilowatt hours per man. Even this appears conservative. With a 40 hour week and using 3,900 kilowatt hours per man per year, it is estimated that the labor force in 1975 will be some 2 million men short. Should a shortened work week, to say 32 hours, then be standard, the labor shortage would be about 23 million workers. To offset this, there will have to be increased use of labor saving devices, all of which require electricity. Increased mechanization in the farm should result in a similar improvement in demand for electricity.

None of the foregoing gives particular emphasis to the strong trend towards air conditioning of residences, commercial establishments or factories for comfort. This will probably be one of the larger users of electricity in the future.

It therefore seems logical to expect that the demand for electricity will show large increases over the future years, which will exceed the growth of the economy. Excepting the temporary cyclical economic swings and the resulting effect on industrial users, there would appear to be no slackening in the demand for electricity in the foreseeable future.

Since the demand for electricity is expected to continue to increase, the need for the equipment to produce, deliver, and enable the use of electricity should continue at high levels over the future. However, despite this strong underlying demand, the companies producing this equipment should not experience a continued increasing demand. Rather, these producers will have cyclical turns in line with the general economy. The only possible exception to the cyclical swings could be equipment for use by utilities. Since utilities have now reached the stage where excess capacity above peak demands is generally adequate or at least should be by the end of 1958, equipment for generation should tend to develop cycles of purchase. The timing here, however, with business downturns would only be coincidental.

The pre World War II pattern indicated a two year cycle for utility purchases of generating equipment. This was based largely on the manufacturing time lag. During the past decade, the utility industry apparently could not get to a position of having sufficient excess capacity. The 1953-54 recession slowed orders and utility capital programs turned down in 1954 and 1955. This proved premature since demand continued to rise. Utilities now plan five years ahead but these plans can be deferred. As a result, it appears that a return to the two year cycle will now reoccur, modified somewhat by long range planning. 1959 is not expected to equal 1958 or 1957 in expenditures for this equipment.

The transmission and distribution grouping can be divided into utility and non-utility equipment. Transmission equipment is almost entirely bought by utilities but since the division between the two is largely a matter of voltage, they are treated as one. Utility purchases of this equipment should be somewhat contra-cyclical to generating equipment. The major reason for this is that this equipment, once installed, can be improved at will rather than by necessity. Since the utility can program its expenses here, the needed funds would be first applied to the generating plant. Further, since the plant provides electricity for future needs, the distributing lines are adequate at the time the plant is built. From 1920 to World War II, utility expenditures for the various facilities maintained an average division of approximately: Generation 35%; Transmission 15%; Distribution 50%.

Subsequent to the war, demands for generating facilities probably limited the latter two expenditures and the above pattern changed, placing heavy emphasis on generating equipment. A return to the pre World War II ratio would seem a normal expectation in which case those companies supplying transmission and distribution equipment should enjoy a high level of business from both new and pent-up demand. However, during the early period beginning in 1920, utilities were expanding delivery facilities to a growing nation and economy. Consequently, the installation of a distribution line would add new customers at a relative high expense. Current expenditures to improve distribution lines, together with population increases and more homes, will add relatively more customers for less dollars.

The housing development in all probability, considerably cut down expenditures here per residential customer. The close proximity of companies in industrial parks has had the consequential effect on transmission and distribution facilities. It therefore seems logical to anticipate that in the future average division of expenditures will more likely be 50% to transmission and distribution and 50% to generation. Generation may even take a larger share, as the higher unit cost, more efficient, large units are installed. This should be particularly so when atomic generation becomes a more important factor.

It therefore seems that the future will show cyclical swings every two years from an ever increasing higher base for those companies engaged in supplying generating, transmission and distribution equipment for utilities. Since no consideration is given here to changes in competitive position, individual companies may vary even more widely.

As the use of electricity in industry and home has increased, the distribution facilities of industrial, commercial and residential buildings have been subject to strain. Those companies supplying distribution equipment for this usage should enoy in the future a double benefit of improving facilities and future need. However, these expenditures will undoubtedly continue to follow business trends and, as in the past, to be more cyclical than the Federal Reserve Index of Business.

In the following table the Federal Reserve Index of Business has been compared with selected classifications of electrical machinery shipments. As is indicated, certain product groups have shown less stability than others.

Index of Shipments of Electrical Products
(1947-1949 = 100)

	Appliances	Industrial Apparatus	Building Equipment & Supplies	Industry Total	F.R.B. Index
1957	152	282	192	203	143
1956	165	269	200	200	143
1955	169	212	165	171	139
1954	150	185	138	153	125
1953	150	205	134	159	134
1952	134	193	133	145	124
1951	137	173	149	138	120
1950	153	124	113	127	112
1949	99	89	83	97	97
1948	110	104	111	106	104
1947	92	107	106	98	100

The manufacturers of industrial apparatus or control and mechanizing equipment should enjoy a continuation of growth in excess of the Federal Reserve Index as is indicated in the preceding table. However, since these expenditures are generally connected with capital goods expansion projects, it would be expected that this segment of the electrical equipment industry will continue to be highly cyclical. It is believed that during the current business recession those companies manufacturing this type of equipment have had the most severe declines in sales orders and backlogs. In view of the obvious labor saving benefits from certain types of this equipment, these companies should experience an early recovery. This should occur when the business recession shows clear signs of bottoming out. Competitive pressures will undoubtedly force many manufacturers to introduce more labor saving devices. As is shown in the preceding table, in 1948 and 1949, sales of these products started to decline early and in 1950 snapped back very sharply. The recovery was in excess of the Federal Reserve Index. There is no reason to believe that this type of recovery would not reoccur. A continuation of the past pattern is to be expected in the future.

The other large user of electricity is appliances and, as the preceding table has indicated, in the post war period these products have experienced the least growth of any shown and have also been the most cyclical. This would indicate that since 1950, when the Korean buying scare occurred, appliance sales have been a combination of replacement and new demand from family formations. It appears that in the larger appliances, such as refrigerators and washing machines, a high percent of saturation has cut the relative importance of new user purchases. Replacement has become a major factor in many appliances.

The future for these appliances would be for growth not greatly in excess of the economy. Since the purchase of any specific appliance at or near saturation is deferrable and relies on consumer disposable income as well as consumer psychology, future swings in volume should be wide. Certain other large ticket items such as dryers might be expected to be less subject to cyclical influence than those which are near maximum saturation. This has apparently been the case in the current recession.

The smaller appliances, known as "Electric Housewares" are purchased largely as gifts or an impulse due to the low unit cost. This segment of the industry has in the past shown substantial growth well in excess of the larger items. The sales growth has been largely dependent upon the introduction of new products rather than the increasing use of older products. An example is the electric fry pan which was introduced in 1954 and had a unit volume then of about 50,000 units. In 1957 approximately 6 million fry pans were sold. In the future, it appears that the continued growth of the companies in this field in excess of the economy will depend largely upon the ability of the industry to continue the introduction of new products which have a reasonable utility.

The other smaller sectors of the Electrical Equipment Industry include signals and communications equipment, insulating materials, insulated wiring cable and miscellaneous products. These are not examined here since the products are largely minor divisions of other companies. Additionally, some of these products may well be called electronic devices which is almost a separate industry.

* * *

The stock exchange in France, the Paris Bourse, had its origin in a twelfth century money-changers' market over a bridge on the Seine River. The Netherlands stock exchange, Amsterdam's Beurs, dates from the early 1600's, and the better-known London exchange originated in an eighteenth century coffee house.

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NEW ENGLAND ELECTRIC SYSTEM

Growth of Share Earnings in Regulated Industries

HUGH PASTORIZA

TRADITIONALLY, THE COMMON STOCKS of regulated industries have been considered attractive for yield and safety, but undesirable in an inflationary period. This was because, being regulated as to earnings, they were felt to offer little or no prospect of an appreciation in value which might offset inflation.

Two or three years ago, when doubts about the indefinite continuance of the boom began to arise, investors who had been placing money in growth industries began to look for a safer haven, where they might still find some protection from inflation. They found that, in spite of the generally accepted idea noted above, a few units among the regulated industries had shown consistent growth in earnings per share over a considerable period. As a result, the stocks of such companies in the electric industry have been bid up until their yield is little over half the industry average.

Up to the present, the market seems to be influenced largely by past performance and to give insufficient attention to changed conditions which might make the future differ from the past. In order to estimate the effect of such changes, it is necessary to understand the mechanism of share earnings growth in regulated industries.

In regulated industries, management's effort is to keep the rate of return on capitalization as close as possible to the allowed maximum. Insofar as it is successful in this effort, gross corporate income will increase proportionately to total capitalization. If the percentage of common equity is kept constant and the cost of senior money does not change, then the earnings on the common stock will also rise in the same proportion as the capitalization. If the number of shares of common stock also rises in the same ratio, then the earnings per share will remain constant, no matter how rapid the growth of total capitalization may be. Thus, it is clear that earnings per share cannot increase continuously along with capitalization, unless the number of shares increases less rapidly than the capitalization. Put in another way, this means that the book value per share must be increased.

INCREASE IN BOOK VALUE PER SHARE

The book value per share may be built up in two principal ways:

1. Through the retention of earnings.
2. Through the sale of additional stock at above book value.

The way in which retained earnings build up book value per share is shown by the following example:

Gross Income at 6% on capitalization of $1,000,000	$60,000
Annual charges on $700,000 of bonds and preferred at 4.28%	30,000
Remaining earnings on $300,000 book value of common	30,000
Common dividends at 75% payout ratio	22,500
Balance to surplus (retained earnings)	7,500

These retained earnings will add 2½% to the total book value of common, and, since the number of shares is unchanged, also to the book value per share.

Growth of book value per share from retained earnings is clearly favored by:

High rate of return on capitalization.
Low common equity.
Low cost of senior money.
Low percentage of dividend payout.

The low common equity and the low cost of senior money results in high leverage for the common stock.

The low payout gives a high retention of earnings.

SALE OF STOCK AT ABOVE BOOK VALUE

The way in which the sale of stock at above book value builds up book value per share is shown by the following example:

Assuming that the company used in the previous example must raise 5%, or $15,000 of additional common capital each year; that present capital consists of 3,000 $100 par shares; and that the market price is related to book value as shown below

	Market Price in Percent of Book Value		
	150%	200%	300%
Number of new shares to raise $15,000	100	75	50
Shares outstanding after sale	3,100	3,075	3,050
Total value of common equity after sale	$315,000	$315,000	$315,000
Book value per share	$ 101.61	$ 102.44	$ 103.28
Value per share added by sale of new stock	1.61%	2.44%	3.28%

Increase in book value per share is less than the percentage of shares added and is greater:

As percentage of new common sold is greater.
As premium of market value over book value is greater.

NECESSITY FOR OVERALL GROWTH

If increases in book value per share are to be fully effective in generating increased earnings per share, total capitalization must grow at least as much; otherwise, common equity percentage will increase, leverage will decline and earnings per dollar of common will also decline. Eventually,

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senior capital would all be retired, leverage would be eliminated and the common equity would then earn only the allowed return on its book value.

Obviously, it is desirable to carry down to earnings per share as much of the growth of capitalization as possible. If retained earnings can supply all the needed additional common capital and other conditions are unchanged, then all such growth can be carried down to earnings per share. Citizens Utilities is a situation where this has actually been done. If some of the additional common equity must be supplied by the sale of additional common stock, then this portion of capital growth can be carried down only partially, the fraction depending upon the market premium above the book value of the stock.

UTILIZATION

The preceding discussion indicates how a quick comparison can be made between a company's future prospects for share earnings growth and its past performance.

For the past to be an accurate index of the future, the following conditions must be compared for the two periods:

Rate of return on capitalization
Common equity percentage
Dividend payout ratio.
Cost of senior money
Rate of growth of capitalization.
Ratio of market value to book value per share.

Estimates of what these conditions will be in future are helped by the following considerations:

While future rate of return must be a guess, based on earnings trend, and the attitude of management and the regulatory body toward rate increases, yet management is likely to plan only such capital additions as it thinks it can earn a fair return on.

Common equity ratio and pay-out ratio are matters of company policy which can be expected to remain close to the values so fixed.

Cost of senior money will rise so long as markets are at the present level. Since most of the senior money is already raised, most of this cost is known.

Rate of growth of capitalization can be computed from the company's construction program.

Ratio of market to book value can only be estimated from what seems to be the trend in company credit.

EXAMPLE

If we take the company previously used and assume the following future conditions:

Rate of return on capitalization	6%
Common equity percentage	30%
Cost of senior money	4.28%
Dividend payout	75%
Rate of growth of capitalization (per year)	7½%
Ratio of market value to book value	150%

The retained earnings will add 2½% per year to book value of common and it will be necessary to sell 5% additional stock each year to maintain the 30% common equity ratio. This sale will add 1.61% to the book value per share, while the retained earnings will add 2½%. Thus the total increase in book value per share will be 4.11% per year. With return and leverage remaining constant, the earnings per share will increase by a like percentage.

This procedure will not, of course, replace a careful, detailed projection of revenue and expenses. It will, however, give a good idea of how completely the growth in capitalization and gross corporate income, which such an analysis would indicate, can be carried down to growth in share earnings.

Allied Chemical Corporation

DIVIDEND

Quarterly dividend No. 151 of $.75 per share has been declared on the Common Stock, payable December 10, 1958, to stockholders of record November 14, 1958.

RICHARD F. HANSEN
Secretary

October 28, 1958

Allied Chemical

Continuous Cash Dividends Have Been Paid Since Organization in 1920

GOOD YEAR

The Board of Directors today declared the following dividends:

COMMON DIVIDEND No. 102

60 cents per share on the Common Stock, payable December 15, 1958 to stockholders of record at the close of business November 14, 1958.

STOCK DIVIDEND

a 2 per cent common stock dividend, payable in common stock December 19, 1958 to stockholders of record at the close of business November 14, 1958

The Goodyear Tire & Rubber Co
By Arden E. Firestone,
Secretary

November 3, 1958

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Makers of
Camel, Winston, Salem & Cavalier
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Carter Hall
smoking tobacco

QUARTERLY DIVIDEND

A quarterly dividend of $1.00 per share has been declared on the Common and New Class B Common stocks of the Company, payable December 5, 1958 to stockholders of record at the close of business November 14, 1958.

W. J. CONRAD,
Secretary

Winston-Salem, N. C.
October 9, 1958

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In studies that may foreshadow worldwide "live" TV, this Texas Instruments scientist tunes a system operating at almost absolute zero (−460°F.). At these frigid depths where molecular activity ceases, weird and wonderful things occur — gases turn liquid or solid, fluid climbs glass walls, heat travels like sound, and electricity flows indefinitely without outside connection. Also, "noise" fades to virtually nothing . . . immensely significant to long distance radar and communication.

This inquiry is just one of many underway at TI's Central Research Laboratory in Dallas, the corporate "heartbeat" of TI's long range technical activity. Research, Development and Engineering in the TI operating divisions apply and extend the Laboratory's basic findings to specific problems of immediate interest. Technical teamwork like this has helped Texas Instruments set a distinguished record of industrial "firsts" . . . and is a pace-setting factor in its swift entry into the ranks of the country's 500 largest industrial companies.

Basic and applied research at Texas Instruments covers solid state physics, materials, devices, and earth sciences, while concentrating on TI's major areas of interest — semiconductors, electronic components and systems, military apparatus, data handling, and geophysical exploration techniques. TI regards its substantial R, D & E expenditure as "seed corn for the future."

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ANNOUNCING TW

SPACE TECHNOLOGY LABORATORIES, INC.

Space Technology Laboratories, Inc., previously a division of The Ramo-Wooldridge Corporation, became a separate company on October 31, 1958. Space Technology Laboratories will be directed by Lieut. Gen. James H. Doolittle, Chairman of the Board (after January 1, 1959); Dr. Louis G. Dunn, President; and Dr. Ruben F. Mettler, Executive Vice President. The other members of the Board of Directors are Robert F. Bacher, Head of the Division of Physics, Mathematics and Astronomy at the California Institute of Technology; James T. Brown, Vice President of the Mellon National Bank, Pittsburgh, Pennsylvania; and Samuel E. Gates, Attorney with the New York firm of Debevoise, Plimpton and McLean.

Space Technology Laboratories has the largest professional scientific and engineering staff in the nation devoted exclusively to Ballistic Missile and Space programs. STL is responsible for the systems engineering and technical direction of the Air Force Thor, Atlas, Titan, and Minuteman ballistic missile programs. While it does not engage in production, STL performs experimental and analytical research projects in advanced space technology, including the fabrication and assembly of special equipment and the conduct of test programs. A recent example is the lunar probe project assigned to STL by the Air Force and the National Aeronautics and Space Administration.

Space Technology Laboratories, Inc., plans to maintain a combination of technical competence and organizational strength appropriate to its special and continuing role in the important national program of space weapons development.

SPACE TECHNOLOGY LABORATORIES, INC.

5730 Arbor Vitae Street
Los Angeles 45, California

EW CORPORATIONS

Thompson Ramo Wooldridge Inc.

On October 31, 1958, **Thompson Ramo Wooldridge Inc.** was formed by the merger of *Thompson Products, Inc.*, and *The Ramo-Wooldridge Corporation.*

Thompson Ramo Wooldridge will be directed by J. D. Wright, Chairman of the Board; Dean E. Wooldridge, President; Simon Ramo, Executive Vice President; and F. C. Crawford, Chairman of the Executive Committee. The other members of the Board of Directors are B. W. Chidlaw, A. T. Colwell, J. H. Coolidge, H. L. George, R. P. Johnson, and H. A. Shepard. Each is a Vice President of the merged company.

Thompson Products, Inc., has been for many years a large manufacturer of components and accessories for the automotive and aircraft industries. In recent years, it has also been active in the fields of Missiles, Electronics, and Nuclear Energy. Thompson has concentrated on products which require a high level of competence in engineering and precision manufacturing.

The Ramo-Wooldridge Corporation was organized five years ago to conduct research, development, and manufacturing operations in the field of electronic and missile systems having a high content of scientific and engineering newness. In addition to the work performed by Space Technology Laboratories, Inc., Ramo-Wooldridge has been engaged in major systems work in such areas as digital computers and control systems, communications and navigation systems, infrared systems, and electronic countermeasures.

The merger of the two companies into Thompson Ramo Wooldridge Inc. is intended to provide an integrated team having strong capabilities for scientific research, engineering development, and precision manufacturing.

Thompson Ramo Wooldridge Inc.

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GENERAL PORTLAND CEMENT COMPANY

Benchmarks for a Diversified Portfolio

ROBERT D. MILNE

THE DESIRABILITY of a diversified investment portfolio is rarely questioned by the financial community. That this is so may be evidenced by the attention given to such analysts as Gerald M. Loeb whose philosophy is: "Don't diversify." He believes that a diversified list of stocks can only result in average performance, and that a portfolio should consist of a few stocks with superior appreciation possibilities. Without wishing to enter the fracas directly, one cannot help but notice that while much has been said about the general topic, little has been said about what constitutes proper diversification.

The major benefit derived from diversification is the lessening of risks. One of the more common examples would be an investor's decision to buy a half dozen of the leading pharmaceutical commons rather than only one drug stock. This would minimize the very real risk that a highly profitable drug would suddenly become unsalable owing to the discovery of a superior drug by a competing company. The same reasoning applies in any industry characterized by some degree of competition. However, an investment program which confines itself to one industry affords little protection during a "rolling recession." Moreover, it keeps the investor from participating in the investment opportunities in other fields. Therefore, it seems to be fundamental that a diversified common stock portfolio implies representation in many of the major industries which comprise the American economy.

A BASIS FOR DIVERSIFICATION

A logical method for diversifying a portfolio might be to select common stock holdings in a number of industries with the investment in each industry in proportion to its importance in the economy. The question then arises as to the relative value of each industry. The most widely held theory of the intrinsic value of a stock is the sum of its future dividends discounted to the present. Carrying this theory further, the intrinsic worth of an industry would be based on its future dividends and hence upon future earnings power. Estimates of future earnings and dividends are to a large extent based upon a company's or an industry's historical record. Thus, the balance of this article will take for its thesis the proposition that the intrinsic worth of an industry is dependent upon demonstrated earnings ability.

A comprehensive source of information on the earnings power of various industries is found in the April 1958 issue of the First National City Bank of New York's Monthly Letter *Business and Economic Conditions*. Each year the reports of some 3500 leading corporations are compiled, with earnings and other data combined into some 65 different industry groups. Although these figures cover only a small number of the half million American corporations, these 3500 companies reported net income in 1957 equal to 88% of toal net corporate profits as included in the Department of Commerce's estimates of national income. Checks with certain other compilations of earnings reports for specific industries also recommend the general reliability of the First National City Bank's data.

SEVEN MAJOR GROUPS

These earnings reports for the years 1946-57 are shown in Table I, after consolidation into 19 industry groups and three miscellaneous categories. The arrangement follows a pattern the writer has found useful. By using this smaller number of industry categories, relationships may be kept in mind more easily. The various industry classifications are further combined into seven major groups in order to place industries with similar cyclical characteristics in reasonable proximity. The first group consists of financial companies, which are regarded as among the most stable since their assets can generally be converted into cash more easily than most other companies. Moving on, the next major group is public utilities, also highly regarded for stability.

The third group of industries includes companies selling nondurable goods and services to the general public. The diverse nature of these consumers' goods results in a large miscellaneous category including such smaller industries as textiles, tobacco, and liquor. The oil industry's sales record in terms of physical volume has been quite stable, yet this large industry would seem to fit in best between the three "defensive" groups already enumerated and the three remaining "aggressive" groups. Consumer durable goods companies may be termed at least semi-cyclical, and the producers of industrial goods have long been known as the "feast or famine" companies. Lastly, the most volatile rating has been given to the railroads.

The totals in Table I differ from those reported by the First National City Bank in that earnings for the investment trust industry have been subtracted so as to avoid double counting. Also, there are two industry groups which may be somewhat distorted. During 1946-49 soap companies were included in the totals for the drug industry, which would minimize the superior growth record turned in by this group. Probably because of the lack of uniform accounting practices, the totals for the insurance industry completely ignore life insurance companies. Furthermore, no adjustments have been made for changes in the unearned premium reserves of fire and casualty companies. Thus the true earnings of publicly owned insurance companies may well be substantially higher than reported by the bank.

CHANGES IN EARNING POWER

In Table II the figures in Table I have been converted into percentages so that one can see the relative amount of earnings each industry contributes to the total. Thus one might note that during the years 1946-50 bank earnings

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Robert D. Milne is an analyst with the investment counsel firm of Boyd, Watterson & Co., in Cleveland, Ohio.

Table I

NET INCOME OF LEADING CORPORATIONS
(In Millions of Dollars)

As Compiled by The First National City Bank of New York

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Banks	386	378	435	466	502	510	598	662	771	791	885	971
Finance	41	71	99	119	162	164	170	191	208	220	243	258
Insurance	61	111	223	305	248	223	279	330	375	363	257	214
Financial	488	560	757	890	912	897	1,047	1,184	1,354	1,375	1,385	1,443
Public Utilities	782	772	934	1,025	1,335	1,359	1,529	1,747	1,922	2,216	2,561	2,749
Drugs	126	126	155	131	100	98	89	89	118	154	221	265
Food	416	527	493	453	511	436	387	431	478	544	610	611
Paper	144	267	285	202	320	334	275	298	347	418	444	375
Trade	624	616	708	577	716	597	550	570	585	685	776	785
Misc.	918	1,068	1,118	783	1,091	888	689	744	726	927	994	1,035
Consumer Goods	2,229	2,605	2,759	2,146	2,739	2,353	1,991	2,131	2,255	2,727	3,045	3,071
Petroleum	770	1,216	1,930	1,421	1,875	2,262	2,175	2,362	2,414	2,771	3,148	3,240
Autos	162	577	806	1,033	1,301	829	856	882	1,135	1,936	1,232	1,424
Building	255	390	525	444	647	552	515	547	627	833	909	838
Chemicals	321	399	494	536	744	636	600	640	765	999	984	967
Rubber	136	122	121	88	163	183	165	185	172	228	230	226
Misc.	92	158	166	107	170	133	119	113	117	151	178	151
Consumer Durables	965	1,647	2,112	2,207	3,024	2,333	2,254	2,368	2,816	4,149	3,534	3,606
Aircraft	20	d 17	18	51	85	58	127	168	272	294	337	374
Electric	114	272	350	338	490	403	418	462	511	504	501	618
Machinery	202	368	495	458	524	516	527	505	628	730	894	894
Metals	255	492	665	436	551	566	485	456	477	761	906	605
Steel	271	426	577	551	784	689	535	734	637	1,095	1,105	1,152
Misc.	272	346	425	344	525	560	520	569	492	611	748	698
Industrial Goods	1,133	1,888	2,529	2,177	2,959	2,793	2,613	2,893	3,017	3,995	4,492	4,341
Railroads	287	460	698	436	783	693	838	871	682	925	879	734
Total	6,654	9,146	11,720	10,302	13,627	12,691	12,447	13,556	14,460	18,157	19,044	19,185

were rising in terms of actual dollars, but declining relative to total corporate income. However, since the "unpegging" of the Government bond market the banking industry has been doing well both on an absolute basis and relative to other industries.

Among the more fundamental changes in relative position were the serious declines in earnings of the retail trade industry and the miscellaneous group of companies supplying nondurable goods and services to the individual consumer. These groups occupied a favored position in the immediate postwar years, as the available supply of automobiles, housing, and appliances took only a small part of the consumer's dollar. Once productive capacity was built up in these latter industries, the "soft goods" companies began to lose their unusual share of consumer spending. In the last few years these soft goods companies have finally stabilized at about 9% of total corporate profits, compared with 23% in 1946. The sharp decline in the food industry's earnings was largely confined to the meat packing and sugar companies. The most violent upswings and downturns were recorded by the automobile, non-ferrous metals, and railroad industries. Superior growth was achieved by drug and aircraft manufacturing companies as well as the office equipment segment of the machinery industry. Surprisingly, some of the heavy industrial goods industries were fairly stable, and the data for chemical and paper corporations do little to bolster their reputation as growth areas. The reader may wish to examine some of the other categories with respect to generally held views.

SOME TENTATIVE BENCHMARKS

Table III compares three series of industry data in terms of percentages which might be considered when trying to establish some benchmarks for a diversified common stock portfolio. In the first column is listed a breakdown of the common stock investments of the 10 largest diversified investment trusts as of Dec. 31, 1957. These funds had total assets of nearly $5 billion, thereby accounting for approximately half of the investment trust industry. A high degree of individuality was evident in the various reports, but when the dollar amounts for each industry were totaled it can be seen that these professional investors find attractive opportunities in virtually all industries. The only unpopular groups on a relative basis were autos, building, food, and retail trade.

The second column in Table III compares the 1957 earnings reports of manufacturing corporations as compiled by the Federal Trade Commission and the Securities and Exchange Commission. Since manufacturing corporations provided 70.2% of total corporate profits in the First National City Bank's report, the FTC-SEC figures were computed over a 70.2% base. This series is reasonably close to the bank's data. However, the FTC-SEC report does show markedly lower earnings for the oil industry, as it does not include profits from foreign operations. The Chase Manhattan's financial analysis of the *Petroleum Industry* 1957 reveals that 33 major oil companies derived 39% of their net income from foreign operations. The FTC-SEC data also show a considerably larger amount for the machinery industry, quite possibly because they include a number of smaller corporations of lesser interest to the general investing public. In the last column is a rough "tentative average" based on the figures in Tables II and III. The data presented in the previous tables might be adjusted for differences in growth trends, although the writer does not believe that greater precision would be especially helpful.

HOW MUCH DIVERSIFICATION?

Now that we have developed some benchmarks for a diversification program, the obvious question is: How closely should they be adhered to? Most experienced investors would prefer to rely on their own judgment as to which securities should be purchased rather than follow a rigid mathematical plan. Nonetheless, no matter how far one wishes to diverge from the average, it is well to keep in mind some idea as to the distance back to the beaten path.

The principal advantage in using a listing such as in the tables accompanying this article is that it shows at a glance whether a portfolio is heavily weighted with cyclical issues, or perhaps consists mostly of defensive stocks. An unusually wide divergence in either direction might be an important factor when determining how much of a portfolio should be held in bonds and preferred stocks. Admittedly, the quality of the stocks held might make almost meaningless a characterization of "stable" or "volatile" based solely on a diversification schedule. Also, at different stages in the business and stock market cycles it might well be advantageous to concentrate on either defensive or cyclical stocks.

Further, as a practical matter it is pointless to carry any

Table II

EARNINGS OF INDUSTRIAL GROUPS

In Terms of Per Cent of Total Earnings of Leading Corporations

As Compiled by The First National City Bank of New York

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Banks	5.8%	4.1%	3.7%	4.5%	3.7%	4.0%	4.8%	4.9%	5.4%	4.4%	4.7%	5.1%
Finance	.6	.8	.8	1.2	1.2	1.3	1.4	1.4	1.4	1.2	1.3	1.3
Insurance	.9	1.2	2.0	3.0	1.8	1.8	2.2	2.4	2.6	2.0	1.3	1.1
Financial	7.3	6.1	6.5	8.7	6.7	7.1	8.4	8.7	9.4	7.6	7.3	7.5
Public Utilities	11.8	8.4	8.0	9.9	9.8	10.7	12.3	12.9	13.3	12.2	13.4	14.3
Drugs	1.9	1.4	1.3	1.3	.7	.8	.7	.7	.8	.8	1.2	1.4
Food	6.3	5.8	4.2	4.4	3.7	3.4	3.1	3.2	3.3	3.0	3.2	3.2
Paper	2.2	2.9	2.4	2.0	2.4	2.6	2.2	2.2	2.4	2.3	2.3	2.0
Trade	9.4	6.7	6.0	5.6	5.3	4.7	4.4	4.2	4.1	3.8	4.1	4.1
Misc.	13.8	11.7	9.5	7.6	8.0	7.0	5.5	5.5	5.0	5.1	5.2	5.4
Consumer Goods	33.6	28.5	23.4	20.9	20.1	18.5	15.9	15.8	15.6	15.0	16.0	16.1
Petroleum	11.6	13.3	16.5	13.8	13.8	17.8	17.5	17.4	16.7	15.3	16.5	16.9
Autos	2.4	6.3	6.9	10.0	9.6	6.5	6.9	6.5	7.8	10.7	6.5	7.4
Building	3.8	4.3	4.5	4.3	4.7	4.3	4.2	4.0	4.3	4.6	4.8	4.4
Chemicals	4.8	4.4	4.2	5.2	5.5	5.0	4.8	4.7	5.3	5.5	5.2	5.0
Rubber	2.0	1.3	1.0	.9	1.2	1.5	1.3	1.4	1.2	1.2	1.2	1.2
Misc.	1.4	1.7	1.4	1.0	1.2	1.0	1.0	.8	.8	.8	.9	.8
Consumer Durables	14.4	18.0	18.0	21.4	22.2	18.2	18.2	17.4	19.4	22.8	18.6	18.9
Aircraft	.3	— .2	.2	.5	.6	.5	1.0	1.2	1.9	1.6	1.8	1.9
Electric	1.7	3.0	3.0	3.3	3.6	3.2	3.4	3.4	3.5	2.8	2.6	3.2
Machinery	3.0	4.0	4.2	4.4	3.8	4.1	4.2	3.8	4.3	4.0	4.7	4.7
Metals	3.8	5.4	5.7	4.2	4.0	4.5	3.9	3.4	3.3	4.2	4.8	3.2
Steel	4.1	4.7	4.9	5.4	5.8	5.4	4.3	5.4	4.4	6.0	5.8	6.0
Misc.	4.1	3.8	3.6	3.3	3.9	4.4	4.2	4.2	3.4	3.4	3.9	3.6
Industrial Goods	17.0	20.7	21.6	21.1	21.7	22.1	21.0	21.4	20.9	22.0	23.6	22.6
Railroads	4.3	5.0	6.0	4.2	5.7	5.5	6.7	6.4	4.7	5.1	4.6	3.8
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table III

	Investment Trusts	FTC-SEC	First National City Bank	Tentative Average
Banks	3.8%	N.A.	5.1%	5%
Finance	1.2	N.A.	1.3	1
Insurance	1.4	N.A.	1.1	2
Financial	6.4		7.5	8
Public Utilities	16.1	N.A.	14.3	14
Drugs	3.3	1.5	1.4	2
Food	1.9	4.0	3.2	3
Paper	4.3	2.4	2.0	3
Trade	1.7	N.A.	4.1	4
Misc.	2.8	5.2	5.4	4
Consumer Goods	14.0		16.1	16
Petroleum	19.4	13.3	16.9	17
Autos	2.3	6.5	7.4	7
Building	2.0	3.4	4.4	4
Chemicals	5.7	6.7	5.0	5
Rubber	4.2	1.2	1.2	2
Misc.	1.8	.5	.8	1
Consumer Durables	16.0	18.3	18.9	19
Aircraft	1.4	1.7	1.9	2
Electric	3.6	4.1	3.2	3
Machinery	6.5	10.3	4.7	5
Metals	3.6	2.4	3.2	3
Steel	6.1	6.0	6.0	6
Misc.	2.9	1.0	3.6	3
Industrial Goods	24.1	25.5	22.6	22
Rails	4.0	N.A.	3.8	4
	100%	70.2%	100%	100%

diversification program into excess detail. For example, American Telephone, General Motors, and Standard Oil (New Jersey) each reported net income of more than $800 million in 1957. Each company had larger earnings than most industries as a whole. Thus an investor should feel as free from worry when he neglects some particular industry as he does when he decides that any one of these three stocks is not especially appropriate for his portfolio.

In summary, while a comparison of an investment portfolio with a series of diversification benchmarks may not be any magic cure-all, it will serve to call attention to any unusual divergence. A consequent re-examination to see whether the portfolio is functioning in line with its special investment objectives may well prove of value. In closing, the writer would like to throw open for discussion the whole question of what constitutes sound diversification. Perhaps those portfolio managers who have devised their own systems would present them for consideration. Perhaps new data covering actual market values or dividend payments might provide a new approach. In any event, the topic appears to be worthy of further attention to see what part it should play in solving the investor's eternal problem of which stock to buy.

New York Security Analysts To Visit European Companies

More than thirty leading European companies will be visited next April by a group of members from the New York Society of Security Analysts, according to an announcement by Ralph A. Rotnem, president of the New York Society.

Miss Frances Haidt is chairman of the European field trip committee, and Miss Doris Maydin is her assistant. Mlles. Haidt and Maydin flew to Europe early this month to finalize arrangements.

Symposia of business and financial leaders within each country will be a high-light of the trip. Local economic conditions will be explained to the visiting United States analysts. Visits to several European stock exchanges are on the agenda.

Through the cooperation of K.L.M. airlines, the 23-day trip (April 3-26) is being made in a chartered plane at a cost of $776 per person. This includes breakfasts, luncheons and occasional cocktail parties. Dinners are "Dutch," travelers being left free to choose their own entertainment. Every third day will be left open for sightseeing, shopping and socializing, Miss Haidt explained.

Among the European concerns to be visited are:

LONDON: Associated Electrical Industries; Bowater Paper Corp.; British Aluminium Co.; British Motor Corp.; British Petroleum Co.; Courtaulds; Crosse & Blackwell; Dorman Long & Co.; Dunlop Rubber Co.; Electrical & Musical Industries; Fairey Aviation; Imperial Chemical Industries; Imperial Tobacco Co.; Rio Tinto Co.; Rolls Royce; John Summers & Sons; and United Steel.

While in London, the U. S. analysts will have the opportunity of visiting with the London Society of Security Analysts.

PARIS: St. Gobain; and Schneider & Cia.

MILAN: Montecatini (Italy's largest chemical combine); and SNIA Viscosa.

WEST GERMANY: Badische Anilin; Farbenbariken Bayer; Ilseder Huette; Kaufhof; and Rheinsche Stahlwerke.

HOLLAND: A.K.U. (United Rayon Mfg. Co.), in Arnhem; Royal Dutch Petroleum, combined with Shell Trading and Transport Co. in The Hague; Unilever Ltd., combined with N. V. Unilever in Rotterdam; Phillips' Incandescent Lamp Wks.; and K.L.M. (Royal Dutch Airlines).

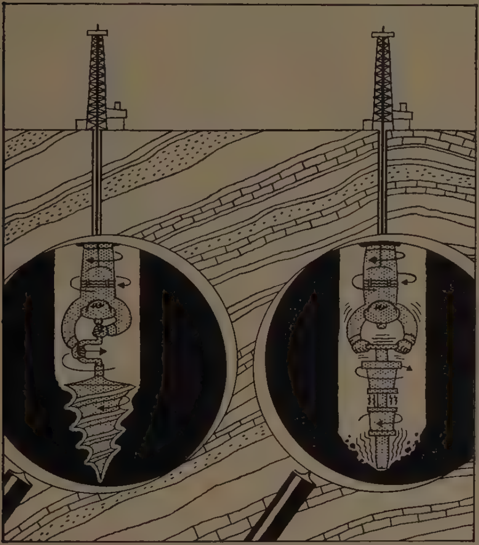
In way of preparation for this trip, Mr. Rotnem explained that briefing sessions are planned for the traveling analysts. Experts from the U. S. State Department, the International Fund and the like will address the group, as well as foreign security experts from the New York Society. One session will feature a talk by Walter S. Morris on Europe's "common market."

Commenting on the over-all plans, Mr. Rotnem said:

"This trip by security analysts to visit European companies indicates the widening of horizons by our profession, and the growing interest in foreign investments on the part of American investors."

Now you can do this two miles down!

Percussion hammer developed by Gulf drills up to four times faster!



The common method of drilling is shown at left with Gulf's new hammer drill at right. It is expected that drilling speed will be increased up to 4 times when the new method is put into use.

The problems encountered in the search for oil are many and various and one of the most frustrating is this: *How can you drill straight down and fast?*

Now, since you can't send a man down with a percussion drill, what's the next best thing? To send the drill down, of course. And Gulf scientists, at the Research Center in Harmarville, Pa., have devised a way to do just that. It took a long, long time . . . but they did it.

First, they developed the drill itself. It consists of a reciprocating piston and cylinder arrangement for delivering percussion blows against friable (or brittle) rock encountered in tough formations.

The device is encased in a cylinder about 19 feet long which hangs at the end of the drill string, with a conventional roller bit fastened directly below. As the drilling mud circulates through the mechanism, it drives a 200-pound hammer, delivering 600 or more strokes a minute, on the attached bit.

Result: Drilling speeds may double or *quadruple* in the hardest oil field formations. Not only that, but straight-line drilling is now possible since the bit will no longer veer off slanting rock formations. This solves the costly problem of the crooked hole.

So, here it is. A tool designed specifically for hard-rock drilling, which is expected to provide savings in money, time, and maintenance. The new drill is about ready for release and arrangements are now under way to make it available to the industry.

One more step in petroleum progress—one more scientific advance with an ultimate public benefit. This is, indeed, the industry that looks to the future.

Gulf Oil Corporation, GULF **General Offices, Pittsburgh, Pa.**

STILL CLIMBING!

WINN-DIXIE DOES IT AGAIN!

ANOTHER "BEST YEAR YET"

COMPARATIVE RESULTS AT A GLANCE

	FISCAL YEAR	
	6/28/58	6/29/57
SALES	$588,568,919	$513,549,316
% Increase	14.61%	21.89%
EARNINGS BEFORE INCOME TAX	$ 24,777,695	$ 21,681,983
Per Common Share	$3.94	$3.48
NET EARNINGS AFTER TAXES	$ 12,269,695	$ 10,625,983
Per Common Share	$1.95	$1.71
DIVIDENDS PAID	$ 5,995,802	$ 5,217,804
Per Common Share *(Present annual rate $1.08)*	$ .96	$ .84
STOCKHOLDERS' EQUITY		
Common	$ 51,966,634	$ 44,321,259
NET WORKING CAPITAL	$ 44,322,188	$ 40,469,059
Ratio Current Assets to Current Debt	2.76 to 1	3.13 to 1
UNITS IN OPERATION		
Retail Stores	473	462
Wholesale Units	9	10

SALES— "BEST YET"!

A $75 million sales jump —to a total of more than $588 million—continued an unbroken tradition of growth extending back to 1928, the year of incorporation. Today, the Company's sales volume places it seventh in the retail food chain industry.

EARNINGS— "BEST YET"!

Climbing 15.47% over '57, net earnings passed the $12 million mark—fourth highest in the industry—reaching $1.95 per Common Share as compared with $1.71 the previous year.

DIVIDENDS— "BEST YET"!

The monthly 1958 dividend rate was boosted to 8¢, up from 7¢ in '57 (96¢ per year vs. 84¢). **This marked the 15th year in a row that the dividend rate has been increased and 25th year of consecutive dividends.** Beginning July 31, 1958, the rate per share per month was again increased to 9¢ ($1.08 per year).

PROSPECTS— "BEST YET"!

By June of next year, 59 new stores are planned to be in operation, more than 40 others enlarged—an expansion program that should result in an annual sales volume of over $675 million.

Copy of complete Annual Report available on request

WINN-DIXIE STORES, INC.

AND SUBSIDIARIES

Operators of Retail Food Stores in Florida, Georgia, Alabama, Mississippi, Louisiana, South Carolina, North Carolina, Kentucky and Indiana
GENERAL OFFICES: JACKSONVILLE, FLORIDA

THE FASTEST GROWING FOOD CHAIN IN THE SOUTH

The Transportation Act of 1958

DANIEL P. LOOMIS

NOW THAT THE TRANSPORTATION ACT of 1958 is the law of the land, it is being hailed in some quarters as a measure that should end "once and for all time" the constant "agitation" by railroads for removal of inequities said to handicap them in competing with other forms of transportation. In this view, railroads now will have nobody to blame but themselves if they fail to halt and reverse the long downward trend of railroad traffic and earnings.

On the other hand, there are those who hold that the practical value of the measures enacted will be small—that most of the basic problems were not touched by the legislation but remain unchanged.

Critical examination and analysis of the Act in terms of what it does and what it leaves undone reveals that its real worth lies somewhere between these two extremes.

That the Transportation Act of 1958 is not the solution to all, or even the most serious, of our transportation problems is evident first in the fact that, under a companion measure adopted as Senate Resolution 303, the Senate Committee on Interstate and Foreign Commerce is authorized to study and report, with recommendations for future action, on important problems of transportation policy not yet resolved. In the language of the resolution, the committee shall "examine, investigate, and make a complete study of any and all matters pertaining to—

"1. the need for regulation of transportation under present-day conditions and, if there is need for regulation, the type and character of that regulation;

"2. the area of Federal policy dealing with Government assistance provided the various forms of transportation and the desirability of a system of user charges to be assessed against those using such facilities;

"3. the subject of the ownership of one form of transportation by another;

"4. Federal policy on the subject of consolidations and mergers in the transportation industry;

"5. policy considerations for the kind and amount of railroad passenger service necessary to serve the public and provide for the national defense;

"6. the problems arising from action by the Interstate Commerce Commission in permitting the charge of more for a short than a long transportation haul over the same line in the same direction; and

"7. Additional matters of Federal regulation (and exemption therefrom) and Federal promotional policy in regard to the various forms of transportation."

Clearly, these are matters of great and far-reaching significance, especially to railroads. For the entirely self-supporting, tax-paying railroads still must compete with forms of transportation by highway, air, and water whose costly fixed facilities continue to be provided, operated, and maintained by Government out of funds supplied largely by taxpayers. And, compounding this injustice, railroads still are forced to contribute in taxes to help support these facilities, while being denied the right to use them on an equal basis with their competitors and taxpayers generally.

But what of the transportation measures that were written into law during 1958? Some of these are of unquestioned and substantial benefit immediately. Others will require longer periods of time before their beneficial effects will be felt. Still others are thought by some to have been so surrounded with ambiguous or qualifying language as to nullify their value, or as to require litigation to determine their real meaning and effect.

REPEAL OF TRANSPORTATION EXCISE TAXES

Although not technically a part of the Transportation Act of 1958, repeal of the Federal excise tax of 3% on for-hire transportation of freight must be rated as a major achievement of the 85th Congress and one that is of immediate, as well as long-range, benefit both to for-hire carriers and to business in general. Repeal of this tax removed what, in effect, had long been a deterrent to the use of our essential systems of common carriage and an artificial incentive to shippers to perform their own transportation service in privately owned trucks and barges. The result could only be favorable to railroads and other for-hire carriers, although to what extent their traffic and earnings have thereby increased cannot be known.

In addition to its stimulating effect on traffic, repeal of the freight tax is saving carriers the not inconsiderable expense of collecting and reporting the revenue therefrom to the U. S. Treasury. In the case of railroads, this expense was estimated at about 1½% of the tax revenue produced.

Repeal of the freight tax, however, is but part of the story. Despite a record three-quarter billion dollar railroad passenger deficit in 1957, Congress continued for still another year—the 13th since the end of World War II—the "temporary" Federal excise tax of 10% on travel imposed during the war to discourage unnecessary use of overburdened public carriers. It thus continued a serious handicap on railroads and other for-hire carriers in their efforts to halt and reverse a trend that finds railroad passenger traffic rapidly approaching a new record low and finds nearly 90% of all intercity travel performed by private automobiles, to which the travel tax does not apply. Failure of Congress to repeal the travel tax thus increases by one the list of major transport problems still to be resolved.

GUARANTEED LOANS

Designed as an immediate aid for railroads in serious

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financial condition and unable to borrow on reasonable terms, the Transportation Act of 1958 provides that the Government, through the Interstate Commerce Commission, may guarantee repayment of loans made to such railroads in an aggregate amount not to exceed $500 million. Guarantees may be applied to loans made to finance improvements to, or to maintain, railroad plant and equipment.

Other stipulations seek to minimize the risk to the Government of having to assume defaulted loans, although such risk, if we may judge from past experience of the Government in making loans to railroads, is negligible. History shows that the Government loaned to six of the pioneer "Pacific" railroads in the early days a total of $64 million. These loans were repaid along with $105 million in interest. The Government's second experience in making loans to railroads was when the roads were returned to private operation after World War I. These loans totaled $1,081,000,000 and again they were repaid, this time with $221 million in interest. Public Works Administration and Reconstruction Finance loans amounting to $1,143,000,000 were made to railroads during the depression, and were repaid with $271 million in interest.

To the relatively few railroads that need and will use them, guaranteed loans may be the means of avoiding bankruptcy. More than this, as the loans may be used for modernization of plant and equipment, they will help to insure the earliest possible return of these railroads to financial stability and strength.

DEPRECIATION POLICY

Congress did not act, however, on two proposals having even greater potential value as measures to speed and insure continued modernization of railroad plant and equipment. Although overwhelmingly recommended by the Senate Committee on Interstate and Foreign Commerce, action on these proposals was deferred without prejudice on the ground that they should first be given consideration by committees of the House and Senate in charge of fiscal matters.

One of the proposals would have permitted railroads, and other carriers as well, to establish a construction reserve, the funds in which would be deductible in computing Federal income tax if used within a period of five years to purchase or finance improvements to plant or equipment. Property paid for out of this fund would, in effect, have been depreciated in advance, as is done for some ships constructed under the Federal Maritime Act. Since depreciation on the property could not again be claimed as a tax credit, the Government would recover its initial deferment of taxes through higher tax payments by the carriers in future years.

The other proposal was designed to encourage more rapid modernization by reducing to 20 years the maximum depreciable life assigned to railroad plant and equipment for tax purposes.

This proposal recognizes that the amount of money permitted to be set aside in depreciation accruals on the basis of 40 years—the present average depreciable life of railorad property—is usually but a fraction of the amount needed to buy replacement equipment at the inflated prices of today. It further recognizes that, as a result of rapidly advancing technology, equipment is often outmoded and in need of being replaced long before its physical capacity to serve is exhausted. Permitting railroads a shorter, more realistic period of depreciation for their plant and equipment would provide funds with which to take advantage of modern improvements when they are new and needed, instead of waiting until the old equipment is worn out. In the face of continuing need for ever more efficient and more economical transportation by rail to meet the expanding requirements of our commerce and defense, any delay in applying new methods or tools that can improve service, or cut cost, or both, may be costly not only to railroads and their owners but also to the nation as a whole. The continuing need for more realistic policies governing depreciation of railroad plant and equipment is thus another on the list of major problems still to be resolved.

INTRASTATE RATE ADJUSTMENT

The Act of 1958 seeks to reduce the loss to railroads that results when state regulatory bodies either refuse to apply, or delay applying, to intrastate traffic, rate adjustments that the Interstate Commerce Commission has found to be just and reasonable for application to similar traffic crossing state boundaries. The solution provided is to have the ICC investigate and determine with "special expedition" complaints brought before it that particular intrastate rates discriminate against interstate commerce.

The ICC had authority to order adjustment of intrastate rates found to discriminate against interstate commerce before the 1958 law was enacted. However, it exercised the authority with hesitancy and ordinarily did not take action until a case had been disposed of by the state regulatory body concerned. In some cases the delay in obtaining final adjustment under this procedure was counted in months or years and in millions of dollars in lost revenue to the railroads concerned.

Under the new law, the ICC shall institute its investigation "upon the filing of any petition authorized . . . to be filed by the carrier concerned," whether or not the rate in question has been "considered by any State agency or authority and without regard to the pendency before any State agency or authority of any proceeding relating thereto." Furthermore, and in contrast to recent rulings of the U. S. Supreme Court (in Chicago, Milwaukee, St. Paul and Pacific Railroad Co. v. State of Illinois, and Public Service Commission of Utah v. U. S.) the ICC may find that intrastate rates discriminate against or burden interstate traffic "without a separation of interstate and intrastate property, revenues, and expenses, and without considering in totality the operations or results thereof of any carrier, or group or groups of carriers wholly within any State."

UNPROFITABLE TRAINS AND SERVICES

The Interstate Commerce Commission is also given authority in the Act, under certain specified conditions, over the discontinuance or change of operation of unprofitable trains in both interstate and intrastate service—a function heretofore reserved exclusively to state regulatory bodies.

When this authority of the ICC is invoked, trains crossing state lines may be discontinued after duly prescribed notice to all concerned, provided, however, that the ICC may, upon complaint or its own motion, order them continued for a period of not more than four months beyond the announced date of suspension while it carries out an investigation of the suspension plan. Such trains may be ordered continued beyond the four-month period only upon a finding that their operation is required by public convenience and necessity and will not unduly burden interstate or foreign commerce.

ICC authority to order abandonment of unprofitable intrastate trains may be exercised after an adverse ruling by a state regulatory body, or if such a body fails to take action on a request for discontinuance within 120 days. The Commission's determination in such cases will supersede that of the state bodies and will be binding.

Without presuming to anticipate future ICC determination in particular cases, it is believed, and certainly hoped, that abandonment of money-losing trains, whether interstate or intrastate, will be facilitated under the new law. This is because the ICC, as a national body, is less subject to local pressures, and more concerned with the effect of particular money-losing services upon the maintenance of railroad service as a whole, than are the state bodies. The net effect should be reflected in future years in a reduction of the enormous and growing railroad passenger deficit, which in 1957, under the ICC accounting formula, reached the record level of $724 million.

COMPETITIVE RATES

On the most controversial of the several changes—the matter of permitting railroads greater freedom to set rates that are compensatory and non-discriminatory, without regard to what effect the rates might have on railroad competitors—the new Act provides as follows:

> "In a proceeding involving competition between carriers of different modes of transportation subject to this Act, the Commission, in determining whether a rate is lower than a reasonable minimum rate, shall consider the facts and circumstances attending the movement of the traffic by the carrier or carriers to which the rate is applicable. Rates of a carrier shall not be held up to a particular level to protect the traffic of any other mode of transportation, giving due consideration to the objectives of the national transportation policy declared in this Act."

This language is the result of compromise on the part of those who favor greater rate-making freedom and those who oppose it. In a letter of May 27, submitted at the request of Representative Oren Harris, chairman of the House Committee on Interstate and Foreign Commerce, I stated the railroads' view of the compromise language as follows:

> "In 1940 the Congress made clear its intent that all forms of transport be governed by the same basic rule of ratemaking under which railroad rates would be based on railroad conditions, truck rates on truck conditions and water carrier rates on water transportation conditions. While the language of the revised rule is not as definitive as had been hoped, we believe it constitutes a reaffirmation of this purpose of the Transportation Act of 1940 and a bar to the paternalistic approach of disallowing a carrier's rates to protect the traffic of another mode of transportation.
>
> "Put in another way, this provision recognizes the soundness of the interpretation placed on the Act by the Interstate Commerce Commission in the *New Automobiles* case and should prevent future deviations from it.
>
> "In general, it may be said that this proposal does not give us the full measure of relief we sought in the making of competitive rates but clearly it does permit the forces of competition to play a stronger part in ratemaking than heretofore."

THE AGRICULTURAL COMMODITIES EXEMPTION

The Act of 1958 also seeks to prevent further expansion of the already large list of agricultural commodities transported free of ICC regulation as provided for in the Interstate Commerce Act. In addition, it restores to regulation a limited number of agricultural commodities heretofore considered exempt.

Why this amendment is needed was well stated by the Senate Committee on Interstate and Foreign Commerce in its report of June 3, 1958, on S. 3778, as follows:

> "This exemption from economic regulation appears originally to have been intended to aid farmers and other producers of domestic foodstuffs by relieving them of some of the burdens of regulation so that the movement of their products from point of production to market or to processing or storage points would be facilitated. By a continuing process of administrative and judicial interpretation, however, the exemption has been extended to the transportation of commodities that have received varying degrees of commercial processing, and to the transportation of such commodities in ordinary commercial channels beyond the initial movement from the point of production. It has also been held to apply to the transportation of imported commodities as well as to those domestically produced.
>
> "Regulated carriers are handicapped in their competition for traffic in 'agricultural' commodities, for while the rates of the regulated carriers are strictly and rigidly controlled and are required to be published, the rates of the exempt haulers are not subject to any control and need not even be made public. As a consequence, large and ever-growing volumes of important traffic have been diverted to the exempt truckers and the diversion continues. The impact upon the regulated carriers is already serious; and the erosion of further classes of traffic is threatened by the trend of administrative and judicial determinations expanding the scope of the exemption."

That railroads and other regulated carriers are no longer confronted with the probability of further large-scale erosion of their traffic by exempt carriers, and that they may now have more nearly equal opportunity to compete for the few commodities restored to regulation, is of course an encouraging and much-needed step in the right direction. Even so, railroads still are virtually excluded from participating in the handling of large numbers of commodities which continue to be exempt. Among the latter are commodities such as fresh and frozen dressed poultry, shelled peanuts, frozen milk and cream, powdered milk and many others in various stages of transportation far beyond the initial movement from farms to primary markets or storage and warehousing points for which the exemption was originally intended. Continuation of such commodities in a special status exempt from regulation clearly is of no provable significant benefit to farmers, while the effect on regulated carriers can only be detrimental. Failure of the Congress to roll back the scope of the exemption to its original and only justifiable purpose leaves still another major transportation problem to be resolved.

PSEUDO-PRIVATE TRANSPORTATION

In addition to the traffic they lose to exempt carriers, railroads and other regulated carriers have lost in recent years a large and growing volume of traffic to operators of motor vehicles who cloak themselves in the guise of a private carrier, but in reality perform transportation service for hire. Observing that various subterfuges are employed, the Senate Commerce Committee said in its report of June 3:

> "The one most commonly used is the so-called buy-and-sell method of operation involving the issuance of bills of sale, invoices, and other such instruments to make it appear that the commodities being transported are those of the vehicle owner when in fact the transaction is merely a device to provide transportation for hire without a certificate or permit . . ."

The Transportation Act of 1958 seeks to put an end to such practices by providing that no person engaged in any business enterprise other than for-hire transportation shall "transport property by motor vehicle in interstate or foreign commerce for business purposes unless such transportation is within the scope, and in furtherance, of a primary business enterprise (other than transportation) of such person."

Railroads anticipate and hope that this new provision of the Act will effectively serve its intended purpose. The problem now appears to be largely one of enforcement, and only time will tell how well that is done.

STATE AND LOCAL TAXES

Railroad witnesses who testified at hearings preceding enactment of the new legislation stated that taxes paid by railroads in many states and localities are disproportionately high and bear no relationship to the earnings of the properties.

As one example, the taxes on a railroad passenger bridge over the Harlem River in New York were said to have multiplied 700%, from $70,000 to $490,000 a year, while the franchise tax for the right of the railroad to use its underground tunnel into Grand Central Station jumped from $1,050,000 a year to $2,500,000 a year.[1]

And the president of a large western railroad testified that in one school district his railroad pays 91.38% of all school taxes levied in the entire district, "even though our 265 acres, consisting only of main line trackage and a single siding, constitute but 0.335% of the 79,200 acres in the district.[2]

Although the report of the Senate Committee on Interstate and Foreign Commerce "suggests that State and local governments reexamine taxes now borne by the railroads for the purpose of determining and correcting inequitable tax situations that exist," such situations remain as much of a burden on the railroads affected as before. And this burden is compounded by the fact that railroad competitors by highway, air, and water continue to enjoy the use of facilities that not only are publicly provided, operated, and maintained, but are also tax-free.

In summary, the Transportation Act of 1958 and other transportation measures enacted in the 85th Congress, makes these positive contributions to sound national transportation policy and to relieving railroads of competitive handicaps which have led them to their present serious state of physical and financial health:

1. Removes the Federal excise tax of 3% on freight charges.
2. Establishes a program of Government-guaranteed loans to aid railroads unable to borrow needed funds on reasonable terms.
3. Makes more effective Interstate Commerce Commission authority over intrastate rates and assigns to the ICC new authority over discontinuance of money-losing trains.
4. Restricts further expansion of the agricultural commodities exemption and restores some commodities to regulation.
5. Establishes a new rule of ratemaking stating that the Interstate Commerce Commission, in determining whether a rate is lower than a reasonable minimum rate, shall consider the facts and circumstances attending the movement of the traffic by the carrier or carriers to which the rate is applicable; and stating further that rates of a carrier shall not be held up to a particular level to protect the traffic of any other mode of transportation, giving due consideration to the objectives of the national transportation policy.
6. Makes clear that all commercial transportation of property by motor vehicle in interstate or foreign commerce except private carriage and transportation otherwise specifically exempt, is subject to regulation.

As against these positive contributions, there are problems of equal or greater importance still to be resolved. Among these, the ones that most seriously burden railroads in their competition with other forms of transportation, are:

1. The absence of user charges on carriers by air and water to reimburse taxpayers for the billions of dollars spent to provide, operate, and maintain the Federal airways and inland waterways; and inadequacy of the charges imposed upon carriers by highway and air to compensate fairly for the use they make of highways and airports.
2. The prohibition that denies railroads equal opportunity to provide service by other forms of transportation, while they are required to pay heavily in taxes toward the

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[1] New York Central System, statement by A. E. Perlman, president, reported in Problems of the Railroads, Hearings before the Subcommittee on Surface Transportation, Committee on Interstate and Foreign Commerce, U. S. Senate (85th Congress, 2nd Session), Part 1, p. 221.

[2] Great Northern Railway, statement by J. M. Budd, president, Ibid., p. 455.

support of publicly provided transport facilities for such other forms of transportation.

3. The Federal excise tax of 10 per cent on passenger fares of for-hire carriers only.

4. Practices of state and local governments in charging exhorbitant taxes on railroad properties, while providing tax-free status for highways, waterways, airports and airways for railroad competitors.

5. Inadequate and unrealistic depreciation allowances for railroad plant and equipment.

It is thus clear that, while the transportation legislation enacted in 1958 is a step forward, it is by no means a "cure-all." Until the inequities remaining on railroads are removed, railroads will have no choice but to continue their "agitation" in behalf of fair and equal opportunity for all.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233), SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

THE ANALYSTS JOURNAL, published five times annually at New York, N. Y., for November 1, 1958.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

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Editor, PIERRE R. BRETEY,
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Managing Editor, WARREN BURNS,
444 Madison Avenue, New York 22, N. Y.

Business Manager, JOHN STEVENSON,
60 Wall Street, New York 5, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

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331 Auburndale Avenue, Auburndale 66, Mass.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are:
None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

JOHN STEVENSON,
Business Manager

Sworn to and subscribed before me this 17th day of October, 1958.
(SEAL)

MARGARET WILKEN
Notary Public, State of New York.
No. 41-9672100. Qualified in Queens County.
Cert. filed in New York County.
Term expires March 30, 1960.

"NOT WORTH A CONTINENTAL"

George Washington, in commenting on the conditions in June of 1775, said: "A wagon-load of money will scarcely purchase a wagon-load of provisions." The vanishing value of the currency of the Continental Congress led to the term for worthlessness that has remained to this day—"not worth a continental." Congress in 1790 authorized the Treasury to accept the continental notes at a rate of 100 to 1, in payment for bonds of the new Federal Government.

* * *

70 YEARS OF "HARD MONEY"

So bitter was the feeling in colonial America (circa 1790) toward paper money—because of its worthlessness—that a provision giving Congress the right "to emit bills on the credit of the United States" was struck out of the first draft of the Federal Constitution. And the Constitution, as adopted, carried a provision forbidding the states to "emit bills of credit." Not until more than 70 years later, in 1862, was paper money again issued by the Government of the United States.

* * *

The first U. S. dollar minted has the Goddess of Liberty head, with flowing hair tied back in what was then known as the "fillet head."

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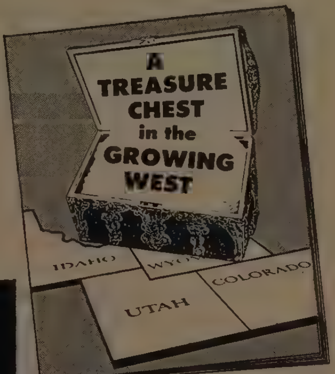
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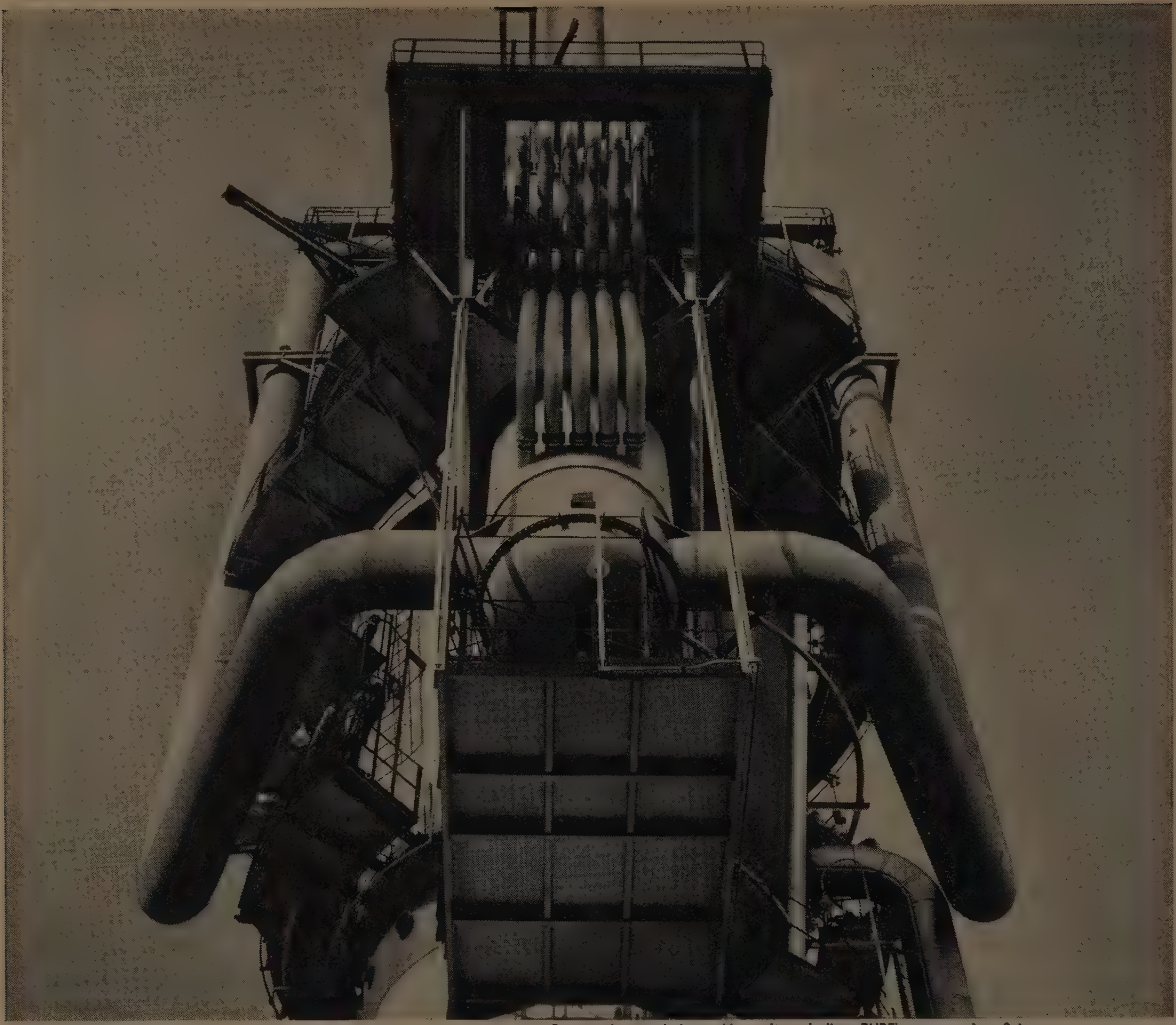

Spectacular catalytic cracking unit symbolizes PURE's progress in refining

Progress report from PURE

Today, Pure Oil's four modern refineries turn out 60,000,000 barrels of petroleum products a year—more than twice as much as in 1940. To meet the growing demand and to feed our four refineries, we have over 5,500 producing oil and gas wells in 16 states.

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Spearheading this growth, PURE's Research Center at Crystal Lake, Ill., is constantly searching for ways to improve gasolines, lubricating oils, greases, and other petroleum products.

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PURE

Today, more than ever, you can **BE SURE WITH PURE**

Appraising Life Insurance Stocks

EARL J. WEINREB

LIFE INSURANCE EQUITIES have been attracting more and more of the investment world in recent years, and while the need for their proper evaluation increases their analysis presents complications that defy the use of many standard analytical yardsticks. Unfortunately, many analysts have taken an ostrich-like attitude towards the unique nature of the life insurance business, in that they proceed to analyze these stocks as they would an ordinary industrial equity. The complexity of the life insurance business is such, however, that a realistic, specially-adapted technique is absolutely mandatory in order to achieve analytical accuracy.

It is currently very important to be able to judge insurance values. The life insurance field is experiencing mergers and consolidations, due in part to its extremely rapid growth. Meanwhile, many investors, as well as some life insurance executives, are unable to ascertain the reasonable value of these stocks.

Almost everyone agrees that life insurance equities represent an area of investment distinguished by unusual security, excellent earnings and sound growth potential. Life companies operate on a relatively small capitalization, utilizing assets which are entrusted to them for safekeeping. Total assets invested can run as high as ten times capital and surplus and earnings may average from 10 to 20% annually on capital funds. In addition, life insurance companies finance themselves by retaining a large part of their earnings; on average, at least 75% is plowed back into the business each year. Federal income taxes have been lenient, and despite the prospect of a future increase, some sort of tax preference will always be accorded the industry.

The business is basically stable, with no inventory or accounts receivable, no funded debt, and in the vast majority of cases no preferred stock. The industry is still growing by leaps and bounds, already enjoying the distinction of being our largest financial group, with admitted assets in excess of $101 billion. Life insurance in force has risen 150% in the past ten years, over 300% in the last twenty years. The rising population, continued inflation and increased public life insurance consciousness will all combine to provide a stimulus for further growth.

There are also problems within the industry which must be considered to achieve any objective analysis. Competition is growing keener each year, with many new companies entering the business. In the past seven years 700 additional companies have arrived on the life insurance scene. There are now almost 1,300 in business. Texas by itself has about 350. Relatively young firms are frequently not financially sound. Also, competition has resulted in some emphasis on premium rate cutting, with its diminished profit margins.

When profits invite excessive competition, a "weeding out" process may be expected. Many companies are destined to fall by the wayside, via the merger, consolidation, reinsurance, or even receivership route. Equity dilution or outright losses would consequently appear to be on the horizon.

There are currently many large, stable companies that are selling at prices which have discounted earnings and growth into the far distant future. The observant analyst may find many overvalued equities for every one showing above-average promise.

This writer has always felt that a life insurance operation loses a good deal of its complexity once one attempts to analyze all the individual factors that combine for profitable activity. The essential factors must be placed into proper perspective in order to be properly weighted. An analyst cannot oversimplify life insurance stocks, because an intimate knowledge of the technical aspects of the industry is required. These aspects would include accounting and actuarial techniques, sales and merchandising problems, and investment income comparisons.

SOME TECHNICAL FACTORS

Premiums and Profit Margins

A life insurance company can realize a profit from each of the various items that make up the premium. First, the company calculates what it must receive to pay future mortality claims. Premiums being paid in advance, an assumed rate of interest is required to meet these claims and forms part of what is known as the "net premium." Administration cost estimates and a profit margin are then added. In actual practice, a profit can be realized on all these assumed items because they are conservatively estimated.

Profits also vary with the type of contract sold: annuities, whole life, term or endowment. Companies also specialize in the way they merchandise their policies; some do "wholesaling" (group writings) to a considerable degree, while others may "retail" (sell individual policies). Most insurance sold is ordinary life, where the insured sends his premium directly to the company. There is also industrial insurance, collected by an agent, weekly or monthly, at the insured's home. Generally speaking, ordinary life is more profitable than industrial, and "retailing" of insurance is more profitable than "wholesaling." However, there are exceptions to these rules, and the analyst must be prepared to qualify each situation encountered.

Different insurance companies may sell the same policy and yet charge different rates. While some companies may be able to sell higher cost policies successfully, others must achieve their volume by shaving premium rates, and their profit margin. A life insurance company may do a relatively poor job in keeping administrative and mortality costs

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Earl J. Weinreb's background covers various aspects of insurance operations, including appraisals for mergers and corporate acquisitions. He is the insurance analyst with Hayden, Stone & Company.

in line, and may also be making very little from their investment portfolio, but it still could be able to show a splendid profit because it sells policies with a higher profit margin allowance. Other companies may do well in every department, but still fail to show adequate profits in relation to their competition because they are pricing their product too low. Competition is causing such reductions in premiums. Thirty-four states have had to set up statutory minimum rates, below which special reserves must be set up for the benefit of policyholders.

Mortality Experience

The mortality tables used for premium calculations are based on averages—in that they give the number of people at a given age who can be expected to die within the year. Obviously, proper medical selection of the prospective insurance buyer will assure the company better-than-average experience. Since some exercise better selection, they are able to profit more from the mortality item in their premiums, everything else being equal. Moreover, if a large amount of term or group insurance is written, income-producing reserves are smaller and the possible gain from mortality can be most important to the over-all earnings picture.

Investment Adequacy

The interest rate assumed in calculating new premiums is usually 2½ to 3%, but in the past much higher interest assumptions were made. A company will have outstanding policies at different rates of assumed interest. In addition, policy options guarantee the interest to be paid on funds that may be left with the company at a future date. Since guarantees must be met, management is obliged to obtain an adequate return on its investments. This has not always worked out favorably for some companies. Today you may still find outstanding policies with extremely high interest guarantees. For a time some of these policies were calling for almost twice what Government bonds would earn net after taxes. Special reserves were required to secure these contracts for the policyholders. Currently, yields are comparatively high and interest assumptions low. Funds must be invested satisfactorily, since income over and above the minimum guarantees can become a very lucrative source of profit.

Above average reserves are required for whole life and endowment policies. These reserves being invested for income, their ability to earn more than what is contractually required is of even greater importance to companies writing a large percentage of such business. In these cases, a ¼ of 1% increase in the investment portfolio rate could conceivably equal as much as a 25% gain from mortality.

Earning assets must be considered for quality and diversification. Furthermore, not all the assets are to be found under "admitted" assets on the balance sheet. The "non-admitted" assets are those not fulfilling certain legal requirements. They may be substantial enough to have an impact on earnings.

Administrative Ability

The analyst must also watch the relative cost of doing business. Managements that keep administrative costs in hand stand to profit most from increasing new business. While many insurance salesmen get paid only when they first sell, some companies are allowed to pay commissions almost twice as much as do others. In New York State, for example, maximum first year agent commissions on ordinary life is 55%, but in some other states companies are permitted to pay up to 100% or more. Consideration should also be given to renewal expense and home office, branch office or general administration costs.

Business Persistency

The cancellation rate of the insurance already sold is an element of great importance to the analytical observer. If a policy is cancelled prematurely, chances are the initial heavy cost of placing the insurance has not been fully covered by premiums. After business has been on the books a couple of years, lapses do not hurt so much. Nonetheless, those profitable premiums the company had been viewing will be no longer available. A time is reached when policy cancellations can be profitable, but insurance firms would rather see the business remain on the books.

Participating Policies

In addition to the complications brought about by the different varieties of policies, and the varying interest assumptions they contain, the analyst has to investigate the participating policy. Stock companies generally write non-participating contracts, but some will also issue participating policies in which the policyholder shares in the profits derived from the contract. This helps some stock companies merchandise their wares in competition with the mutual companies who, theoretically at least, allow their policyholders a share in profits. Many substantial companies do very well, however, without the use of participating contracts.

Premiums of participating policies are higher in order to give the company more flexibility in the event of contingencies. A "dividend," or a return of the "excess premium," is then made on these policies. For competitive reasons, the net cost of non-participating policies will approximate that of participating contracts. The participating policies are simply a merchandising aid.

Corporate charters usually stipulate the amount of profits from participating business that can accrue to stockholders. In New York State, the insurance law states that only 10% of "par" profits, or 50 cents per $1,000 of face value (whichever is greater) shall "inure" to the stockholders' benefit. Furthermore, companies domiciled outside of New York, but doing business there, must adhere to this restriction on all participating insurance written anywhere in the country. This provision is only of consequence to a company either home-based in New York, or where a large bulk of business is written in the state.

As a rule, participating business is less than half as profitable as non-participating insurance, the exact amount varying from company to company. Thus, "par" insurance is not as unprofitable as it may appear to be as far as the stockholder is concerned. More of this insurance can be written on a given amount of capital funds because of the higher gross premium involved. In addition, the "dividend" is very often left with the company by the policyholders, earning income that partially accrues to the stockholder. It may also be used to buy more insurance.

Net Gain from Operations

Net gain from operations is all operating and investment income, after expenses and taxes, reduced by dividends on participating policies. This figure must then be adjusted for the heavy expense of placing new life and accident and health business. The adjustment made is equivalent to the value of the increased business on the books during the year. In order to make the adjustment, most analysts assign an arbitrary set of values for each type of policy sold, irrespective of company and without qualification of any kind. For each $1,000 of face amount of insurance they generally assign $15 or $20 for ordinary life, $5 or $8 for term insurance and $2 or sometimes $5 for group insurance. The analyst takes his choice. Sometimes credit is given for industrial insurance written, although it is not as expensive to place. As for accident and health insurance, an increase in business is a credit to net operating gains; a decrease, if any, is a debit from it. If fire and casualty subsidiaries are reported on a consolidated basis, adjustments must also be made for changes in their business volume.

It should be emphasized that the analyst may make a serious error when taking arbitrary adjustment values. He is, in effect, capitalizing the earning potential of newly-acquired insurance, but no two companies will earn the same amount on the same kind of policy. The apparent annual return per policy per thousand is determined by the operation of the individual company.

In the calculation of the adjustment for health and accident insurance, most analysts take 20% of the increase in unearned premium reserve (the amount the company would be obliged to return should the policyholder cancel the contract). The 20% represents an estimate of the expense involved in establishing the business. Actual analysis, however, indicates that costs of acquisition will vary with the form of accident and health insurance sold. Although this valuation method is conservative, no account is taken for the actual earning power of the reserve and the acquisition cost should be accurately determined.

In observing net gain from operations, consideration should also be given to the fact that the Full Net Level premium reserve companies underestimate income. Using this method of reserve, the cost of placing insurance is fully expensed during the first year. Where Modified Preliminary Term and similar methods are used, the cost is amortized over a period of years, and earnings tend to be over-estimated. Many rapidly expanding companies will use this latter method of setting up reserves in order to reduce the drain on surplus.

In those states where "deficiency reserves" must be set up to protect the policyholder, (premiums charged are under the statutory minimum) the reserves are charged to current income and tend to underestimate earnings.

Liquidating Value

Liquidating values, obtained by adding the value of the business on the books to the capital funds (capital, surplus and free reserves), give a fairly accurate idea of intrinsic value. The value of the insurance is determined in the same fashion as it is for earnings adjustments, except that industrial insurance is assigned a value. This can be a percentage of the annual industrial premiums, or a figure of from $10 to $20 per thousand may be used. The exact figure depends on the operation of the particular company.

The analyst should concern himself with liquidating values because they affect the psychology of the market. People tend to avoid those insurance stocks that sell out of line with either book or liquidating estimates. Investors should also be interested in the "going value" of a company. The agency plant and key personnel are all responsible for the going value of a life company and never show on the asset side of the balance sheet.

When computing capital funds, only that portion of the surplus applicable to the stockholders should be considered. Some corporate reports will make the distinction, but many do not, particularly those companies writing a large amount of participating insurance. It takes extensive analysis to come up with the true stockholders' surplus.

It is also important, when calculating the value of insurance on the books, to determine the relative age of the policies. A 20-year endowment policy in its 19th year has but one year to go; whereas in its second year, it still had 18 productive earning years ahead. In short, a company's earning potential will vary with the proportion of old and new long-term contracts on hand.

When analyzing Canadian life insurance companies, particular attention must be given to the taxable portion of surplus, or that amount made applicable to stockholders. As long as these funds are kept out of the stockholders' surplus, they are tax free and available for investment. These annual reports make no distinction of surpluses, and further investigation is called for.

Growth Potential

In estimating future growth, we are compelled to rely, to a certain degree, on past performance. To the extent that established life insurance companies have rather firmly entrenched management, this assumption is, at least partially, correct. Any substantial change in managerial policy must subsequently be taken into account. Due to the frequency with which stock control of the smaller companies is bought and sold, their management is less stable and, therefore, past records may not portend much in the way of future growth. Moreover, the author has found situations where rather obscure changes in the middle level executive echelons have made quite an impact on important corporate policy.

Despite the inherent weaknesses to be found in looking backwards, past records are an integral part of the analytical picture. The analyst has used several methods; the increase in insurance volume; the increase in assets; the growth of premiums; and finally, the rise in the stockholders' equity. The first method, the increase in insurance volume, means very little because there is such a vast discrepancy in the earning power of $1,000 of ordinary life compared with the same amount of term or group insurance. Secondly, a mere increase in assets also can have little significance to the investor, unless he knows to what extent they are being put to profitable use. As for the growth of premiums, this criterion can be most useful, provided we know how much is participating and how much is non-participating premium income. Perhaps the best yardstick of all is the rise in stockholders' equity. Growth is meaningless unless, in the final analysis, profits accrue to the stockholder. It is absolutely essential that we know what the stockholder is entitled to and how much belongs to the policyholder.

The writer has found that certain aspects of past performance can be very helpful in gauging future potential. For example, many life insurance equities have grown marketwise at a much greater pace than the companies have in terms of earnings or stockholders' equity. This is a reflection very often of a change in the price/earnings valuation set by the market, and is not an indication of true growth. If this continues over a prolonged period of time and intrinsic values are not being adequately judged, there is bound to be trouble ahead. Optimistic market psychology cannot keep a stock riding a pedestal without sufficient corporate growth. Many life insurance stocks are riding this pedestal today.

The investor must also be certain his equity has not been diluted to a point where growth is meaningless. One has to judge a stock from the point of view of today's investor, not the one who became a stockholder 10 years ago.

The analyst should also consider the size of company. Relatively small firms tend to grow faster than larger companies. However, smaller companies also suffer the most from competition, higher operating costs, and the shortage of good management. In connection with unit costs, it takes several million dollars a year of insurance premiums before the company can attempt to start cutting costs in home office operation. Some of the best market performances in the future may consequently be turned in by the equities of the larger companies.

THE STATISTICAL APPROACH

To get the complexities of life insurance stock analysis into focus, the writer has been investigating about 25 factors that concern life insurance operations, and relating them to the financial progress of certain major companies. These factors are continually related to each other; some have been shown to be relatively insignificant, while others dominate the picture. In all, 36 life insurance companies have been constantly scrutinized by the author. The results of the analytical findings have been charted on frequency curves in order to furnish the relative standings of these companies with regard to the various factors used. The use of statistical analysis is a logical approach because values are relative. The assignment of various weights to the factors that go to make up a complex life insurance operation is a necessary prerequisite to the analyst's judgment in the evaluation of life insurance stocks.

CONSOLIDATED NATURAL GAS COMPANY

30 Rockefeller Plaza
New York 20, N. Y.

DIVIDEND NO. 43

THE BOARD OF DIRECTORS has this day declared a regular quarterly dividend of Fifty Cents (50¢) per share on the capital stock of the Company, payable November 17, 1958 to stockholders of record at the close of business October 15, 1958.

R. E. PALMER, *Secretary*

September 17, 1958

FEDERAL

FEDERAL PAPER BOARD CO., Inc.

Common & Preferred Dividends:

The Board of Directors of Federal Paper Board Company, Inc. has this day, declared the following quarterly dividends:

50¢ per share on Common Stock.
28¾¢ per share on the 4.6% Cumulative Preferred Stock.

Common stock dividends are payable October 15, 1958 to stockholders of record at the close of business September 29, 1958.

Dividends on the 4.6% Cumulative $25 par value Preferred Stock are payable December 15, 1958 to stockholders of record November 28, 1958.

ROBERT A. WALLACE
Vice President and Secretary

September 16, 1958
Bogota, New Jersey

MINNEAPOLIS GAS COMPANY

739 Marquette Avenue
Minneapolis 2, Minnesota

Common Stock Dividend

The Board of Directors of Minneapolis Gas Company, at a meeting held on October 7, 1958, declared a dividend of 36¼ cents per share payable in cash on November 10, 1958, to common stockholders of record as of the close of business October 27, 1958.

G. T. MULLIN, *President*

The Symbol of Service

THE DAYTON POWER AND LIGHT COMPANY

DAYTON, OHIO

145th Common Dividend

The Board of Directors has declared a regular quarterly dividend of 60c per share on the Common Stock of the Company, payable on December 1, 1958 to stockholders of record at the close of business on November 18, 1958.

GEORGE SELLERS, Secretary

November 7, 1958

DIAMOND GARDNER
CORPORATION

77th CONSECUTIVE YEAR OF DIVIDENDS

GROWING FOR THE FUTURE

diamond gardner

The Board of Directors of Diamond Gardner Corporation on September 25, 1958, declared a quarterly dividend of 30c per share on the Common Stock. At the same meeting the Board also declared a quarterly dividend of 37½c per share on the $1.50 Cumulative Preferred Stock. Both dividends are payable November 1, 1958 to stockholders of record October 6, 1958.

PERRY S. WOODBURY
Secretary and Treasurer

MATCHES • CARTONS • PULP PRODUCTS • LUMBER • BUILDING SUPPLIES • WOODENWARE

Effect of Market Price on Economic Earnings

F. W. ELLIOTT FARR

IN HIS TALK before the Analysts' convention this spring, Benjamin Graham (an expert on corporation valuation) coined the term "Exogenous Risk" to describe the risks inherent in stock prices as contrasted with the normal risks in an enterprise itself due to capital structure, nature of the business, and the like.

The question arises whether the price of a stock has any effect on its long term economic earning power to the investor. Superficially the answer is no. But is this true? Buying a stock is analogous to buying the underlying property. It is a convenient way to participate in ownership with a theoretical "person"—the corporation—standing between the earning property and the owners as titleholder, manager, and divider of profit.

Assume a cement plant earning $1,000,000 per annum before depreciation and before taxes. What is its net earning power after depreciation. This depends on cost, of course. Any buyer of the plant would calculate profit *after* proper amortization of his costs. The following table is indicative.

Cost	Cash Income	Depreciation at 4%	Net Income	Pre-tax Return on Cost
$10,000,000	1,000,000	400,000	600,000	6%
5,000,000	1,000,000	200,000	800,000	16%

As the price goes up, the net goes down. At $25,000,000 cost, 4% depreciation would equal cash flow and net would be zero. It is clear that in the purchase of any productive asset, earnings are directly affected by cost of purchase since depreciation of such cost is a basic expense of doing business.

If, instead of buying a cement mill, the investor is considering a cement stock, does the price paid for the shares have any effect on the long term earning power of the investment. The stock market itself appears to say no in spite of the fact that straight business principles, unencumbered by a corporate shroud, say yes.

It is interesting and perhaps a little challenging to stock investor presumptions to apply the property buyer's technique to an investment in stock. As an example, easily multiplied a hundred fold by any competent analyst, table I is presented.

This table assumes an appraisal of earning power on the basis of 4% depreciation of the excess of price per share paid over net working capital i.e. that part of price presumably representing the assets which must be replaced and maintained out of earnings.

Table I

Asset Values 12/31/57	General Portland Cement Co.	Lehigh Portland Cement Co.
Funded debt	$ 15,000,000	$ 30,000,000
Common stock at market*	156,000,000	153,000,000
Market value of enterprise	$171,000,000	$183,000,000
Less net working capital	11,700,000	18,100,000
Market value of fixed assets	$159,300,000	$164,900,000
Depreciation of fixed assets (at 4% per annum)	6,400,000	6,600,000
Cost of fixed assets per share at market	$77.00	$39.50
Depreciation of cost at 4%	3.08	1.58
Earnings—1957 per share basis		
Net earnings as reported	$ 3.36	$ 1.70
Add back depreciation	1.35	2.49
Cash earnings	$ 4.71	$ 4.19
Deduct Present Cost depreciation	3.08	1.58
Adjusted net earnings	$ 1.63	$ 2.61
Dividends	2.30	1.00
Excess over dividend	$ 0.67 def.	$ 1.61

*General — 2,079,942 sh. mkt. 75
Lehigh 4,183,432 " " 36½

Based on the above figures, the following price ratios develop:

	General	Lehigh
Market price	75	36½
Dividend yield	3.1%	2.8%
Times earnings 1957 as reported	22.3-1	21.5-1
As adjusted above	46.0-1	14.0-1
Cash basis	15.9-1	8.8-1

By normal stock market appraisal, these two stocks are "in line" as to yield and times earnings ratio. On an adjusted earnings basis, however, Lehigh is selling at one-third the price and at little more than half the price on a cash basis.

There seems little left to say except that the practical approach used by business men in buying a business may be too "theoretical" to have much application to investment in securities. In this field the supply-demand situation for common stocks sometimes over-rides in importance the basic values which the certificates represent. But perhaps the property buyers technique has some merit when considering stock investments in industries in which fixed assets are of great importance and in which depreciation is a large factor in relation to net earnings.

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Are Accounting Requirements for Stock Dividends Obsolete?

C. AUSTIN BARKER

DURING THE YEARS 1955 through 1957 stock dividends have been issued in record-breaking numbers and their issuance has created some new problems in corporate planning. Accounting requirements for stock dividends are one of the most perplexing problems to managements planning such a distribution. No such difficulty occurs regarding a stock split-up. Thus it is commonly stated that the differences between stock splits and stock dividends are largely matters of accounting. However, some accountants feel the significant difference is a matter of "business intent."

The New York Stock Exchange distinguishes between the two according to the percentage size of the share distribution; distributions of 24% and less are treated as stock dividends, while those representing 100% or more of the number of shares previously outstanding are classified as split-ups. Distributions ranging between 25% and 99% may be judged individually by the NYSE. Some state laws define stock dividends, too. There is considerable confusion and controversy in accounting for stock dividends, as is found in other factors relating to such distributions.

The most generally accepted accounting procedure with respect to stock dividends, as evidenced by the position of the American Institute of Certified Public Accountants, requires the corporation to transfer from retained earnings (earned surplus) to permanent capitalization of the company (capital stock and capital-surplus accounts) an amount equal to the "fair value" of the additional shares issued. For NYSE-listed corporations, fair value closely approximates the market price, adjusted to reflect issuance of the additional shares.[1] The difference between capital stock account per share and market price per share is credited to the capital-surplus account. Some accountants prefer, however, to base the transfer from earned surplus accompanying the stock dividend on the "average issuing price" of the original common stock at the time the stock dividend is issued. Others prefer to use the par or stated value to determine the amount transferred from earned surplus. And some state laws have technical accounting requirements of varying types regarding stock dividends that make other potential alternatives academic.

Stock split-ups generally involve no change in the capital account or surplus account. Usually the outstanding stated capital is simply divided into a larger number of shares. This reduces the "per-share" par or stated value by one-half in the case of a 2-for-1 split, and so on. Such treatment corresponds with the legal meaning of the term "stock split-up."

In some cases, however, a stock split-up may involve a charge against surplus at the par or stated value and a credit to stated capital, followed by the issuance of additional shares, to increase the capital and to increase the number of shares outstanding. This is legally a stock dividend but should normally not require application of the "fair value" rule specified in the stock dividend accounting requirements described above. The fair value rule is purely an accounting concept, except in a few states.

It is also occasional practice to utilize the stock split-up to permanently capitalize substantial amounts of earned surplus through a change from no-par to par value. This practice permits better coordinated management planning regarding distribution size, the sought-after market price, and the amount of earned surplus considered desirable to be locked-in by permanent capitalization. Thus the transfer is not limited by the percentage size of the share distribution.

STOCK DIVIDENDS AND STOCK SPLIT-UPS

It is apparent from the foregoing that there is no clear-cut distinction between split-ups and stock dividends. They overlap in both the legal and accounting areas. In the economic sense, they differ only in the matter of degree of dilution; stock split-ups generally are deemed to represent a greater percentage distribution. Yet there are, of course, a number of seeming exceptions involving large stock dividends and split-ups of less than a 2-for-1 ratio.

It should be helpful, then, to examine the *similarities* of the two types of distribution, rather than their *differences*. In what ways are they the same?

The Committee on Accounting Procedure of the American Institute of Certified Public Accountants prescribes the accounting procedure for stock dividends and split-ups in detail in Accounting Research Bulletin No. 43.[2] According to this bulletin, both represent "an issuance by a corporation of its own common shares to its common stockholders without consideration . . ."[3]

Neither type of distribution is considered to be income:

> "In the case of a stock dividend or split-up, there is no distribution, division or severance of corporate assets. Moreover, there is nothing resulting therefrom that the shareholder can realize without parting with some of his proportionate interest in the corporation."[4]

And, further, in discussing procedures for the recipient of a stock dividend, or split-up:

> ". . . many arguments put forward by those who favor recognizing stock dividends as income are in substance arguments for the recognition of corporate income as in-

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[1] Footnotes appear at end of article.

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come to the shareholder as it accrues to the corporation, and prior to its distribution to the shareholder; the acceptance of such arguments would require the abandonment of the *separate entity* concept of corporation accounting."[5]

And, finally:

> ". . . a shareholder's interest in the corporation remains unchanged by a stock dividend or split-up except as to the number of share units constituting such interest. . ."[6]

Thus both types of share distributions are issued without consideration, do not represent income, and leave the stockholders' interest unchanged. Moreover, in the case of a sale following either, gain or loss is determined on the basis of the adjusted cost per share. More importantly, in both cases the time computation date for application of the long-term capital gains tax rate is the purchase date of the original shares.

BASIS FOR TRANSFER FROM SURPLUS

In view of these apparent similarities, it is important to examine carefully the principles governing corporate accounting for stock-dividend transactions. The only difference is the transfer from earned surplus accompanying the stock dividend. Why is the transfer made from surplus?

Such a transfer represents a capitalization of surplus, decreasing the amount of surplus otherwise available for subsequent dividends, and is a means not only of attracting new shareholders but also of communicating the corporation's superior growth performance and growth potential to investors and the public. It expresses management's confidence in the future, and the accounting transfer gives tangible evidence of this confidence by locking in some of the past and/or current earnings.

It should be made clear that the distribution of earnings from surplus is to the capital account and capital-surplus account, and *not* to the shareholder, who has the same proportionate interest in the company afterwards as before the event. The bookkeeping entry signifies a "business intent" that, due to future growth potential, the transferred portion of surplus may be permanently capitalized, since presumably, ample surplus can be earned anew to provide for "rainy-day" requirements.

A transfer from surplus could be made without an accompanying stock dividend, but additional benefits such as maintenance of a popular price range for the stock can be accomplished only by a stock dividend (or a split-up). In addition, it is scarcely necessary to note here that many corporations with large reinvested earnings have issued stock dividends (or split-ups) simply to diminish labor and political attack on large earnings per share or on a large earned surplus account.

The so-called "forced reinvestment" theory may be applied by any corporation which simply ceases to pay cash dividends, or reduces them. In that case, as previously pointed out, management has the choice of either (1) issuing stock-dividend certificates as a "convenience" for sale by stockholders who need cash, or (2) leaving the stockholder to his own devices to sell part of his original shares if he needs cash.

FLUCTUATING MARKET PRICE PARADOX

The paradox faced by corporate financial planners is the accounting and listing requirement that the earned surplus transfer be based upon a fluctuating standard, i.e., *the market price* (or an approximation) of the company's common stock.

From the financial standpoint, there are three fundamental principles or objectives involved in stock dividends.

First, there should be earned surplus available for such dividends in an amount equal to the legal transfer requirement with respect to the additional shares issued, because the par or stated value and capital surplus, if any, is being increased.

Second, most companies issuing the small, regular or periodic type of stock dividends, accompanied by cash dividends, do not reduce their cash dividend rate proportionately. This constitutes a real increase in total corporate cash paid out. In such cases it obviously is essential that the stock dividend not be so large that the resultant cash payment represents a constantly increasing percentage of earnings beyond the particular industry's average pay-out ratio or some typical norm. This requirement is underscored by the fact that a policy of issuing small, recurring stock dividends involves an implication that they are properly geared to growing earnings and dividends and can be continued indefinitely. One final note of caution: where this practice is followed it is usually reflected in a gradually rising yield (risk) rate and thus becomes an expensive method, cashwise, of enhancing market price.

The third financial objective is to maintain the price within the so-called popular price range, and thus to broaden the ownership base.

NO NEED FOR MARKET VALUE AS TRANSFER BASE

The three financial fundamentals are illustrated in the example below in an unchanging general market. A 10% stock dividend practice is compared with a non-stock-dividend policy.

Assume at the end of first year:

Market Value	$20 per share	
Stated Value	$10 per share	
Earnings	$2 per share	
Cash Dividend	$1 per share	
Payout Ratio	50%	
Common Stock 10,000 shares at $10		$100,000
Earned Surplus		None
Book Value ($10 per share)		$100,000

Earnings and cash dividend growth, 10% per year

Since earnings coverage remains the same in either case, capitalization of yields at 5% and of price-times-earnings at 10 times remain the same throughout in an unchanging general market.

The following table demonstrates that an earned surplus transfer based on *par or stated value* of the shares issued, adjusted to reflect issuance of the additional shares, can steadily and more effectively accomplish the fundamental purpose of a transfer based on market value, i.e., it maintains the market price of a prosperous growth-type company

Table I. Basic Principle of Par or Stated Value Measure

	A. 10% Stock Dividend Policy			B. No Stock Dividends		
Year	First	Second	Third	First	Second	Third
Earnings:						
Total	$ 20,000	$ 22,000	$ 24,200	$ 20,000	$ 22,000	$ 24,200
Per Share	2.00	2.00	2.00	2.00	2.20	2.42
Dividends:						
Total	10,000	11,000	12,100	10,000	11,000	12,100
Per Share	1.00	1.00	1.00	1.00	1.10	1.21
Current Earnings Retained:						
Total	10,000	11,000	12,100	10,000	11,000	12,100
Per Share	1.00	1.00	1.00	1.00	1.10	1.21
Number of Shares:						
Issued Jan. 1	....	1,000	1,100	....	....	....
Outstanding Dec. 31	10,000	11,000	12,100	10,000	10,000	10,000
Capital Accounts at Year End:						
Earned Surplus (Transfd. Jan. 1 to)	10,000	11,000	12,100	10,000	21,000	33,100
Capital Stock	100,000	110,000	121,000	100,000	100,000	100,000
Book Value:						
Total	110,000	121,000	133,100	110,000	121,000	133,100
Per Share	11.00	11.00	11.00	11.00	12.10	13.31
Per Share Adj. for Dilution	10.00	10.00	10.00	....	....	....
Market Value:						
Per Share (at 5% Yield)	20.00	20.00	20.00	20.00	22.00	24.20
Total, 3rd Year	(12,100 shs)		$242,000	(10,000 shs.)		$242,000

within the popular price range and signifies management's confidence in future earning ability by permanently capitalizing the current retained earnings. Market value of 1.818 times book value remains the same in either case. Per-share earnings, dividends, and market price do not increase as in the case of the non-stock-dividend shares, yet total book value and the shareholders' total investment market value grow at the same rate in both cases.

Conservatism would suggest that a stock dividend smaller than 10% should be utilized, because growth rates fluctuate. In some years a 10% stock dividend might raise the payout ratio under the assumed conditions. Obviously, a growth stock that could support a regular 10% annual stock dividend under the assumed circumstances would be a rarity. (The 10% example was selected solely for arithmetical convenience of the reader.)

The reader will note that there is no capital surplus account in Table I. This was omitted for simplicity and to illustrate one of the fundamental purposes of a stock dividend, which is to increase the total par or stated value as well as to hold the market price within a popular price range.

Book value also could have been used as a more stable measure for earned surplus transfers. If there had been, say, $40,000 of earned surplus accumulated from past years, the earnings would have had to be between $3,000 and $4,000 more each year to prevent a slight dilution of book value per share at each year-end—assuming such dilution to be undesirable in the specific circumstances.

MARKET VALUE BASE INCONSISTENT

From Table I it can be seen that the requirement of market value as a measure of the amount of surplus to be capitalized confronts management with an unpredictable and fluctuating yardstick when an attempt is being made to plan a consistent stock-dividend policy. During a rapidly rising general market, when dilution is most needed to maintain a popular price level, the market-price formula restricts the size of stock dividends most severely. Yet after a sharp downturn, such as the 100-point drop in the Dow Jones industrials in late 1957, the market-price formula permits a greater stock-dividend dilution on the same amount of surplus, at a time when corporations least need it. This is the paradox. Stock splits impose no such limitation on management.

It has already been established that use of the stock dividend in small amounts, regularly issued, is a sound method of steadily maintaining a popular price range for the stock and of broadening the ownership base. The market-price formula does not lend itself to a consistent, continuing policy of this nature, because of wide fluctuations in the market price. This accounts, to a large extent, for the apparent extreme irregularity of most so-called multiple stock dividends and for similar deviations from "regular" annual stock-dividend policies affecting both size and regularity.

MANAGEMENT PLANNING

Recently G. Keith Funston, president of the New York Stock Exchange, pointed out that from now on through

1965 corporate management must plan to construct new plant and equipment at an estimated $45 billion a year. He further estimated that this would require raising an average of nearly $7 billion annually through new stock issues.[7]

Stock dividends, like stock split-ups can produce a substantial increase in number of shareholders and growing ranks of small shareholders are one of the bulwarks of the expanding free enterprise economy described in the remarks of Mr. Funston.

Management, however, cannot plan a consistent, regular stock-dividend policy based on a fluctuating market-price standard of measurement. It should not be expected to do so. The market-price limitation amounts to a form of forced dollar-averaging in reverse for the small, regularized stock dividends. To estimate longer-term earnings and dividend growth is a proper part of management planning. The addition of a market-price limitation compounds the difficulty and, in my opinion, serves no useful purpose.

However, some accountants maintain that " . . . many recipients of stock dividends look upon them as distributions of corporate earnings and usually in an amount equivalent to the fair value of the additional share received."[8] A careful study of all accounting arguments that the surplus transfer should be equivalent to fair value or market price discloses *no* measure or study that supports the implication of such arguments, i.e., that stock dividends, in themselves, enhance market price.

EFFECT ON PRICE

In my analysis of all NYSE-listed stock dividend issues of 5% or more paid in common stock during the years 1951 through 1954, it was found that despite strong opinion to the contrary stock dividends alone, whether large or small, produce no lasting gains in market price for widely held stocks on national exchanges.[9] The study showed an average real price gain over the general market of 9% for 190 companies which accompanied stock dividends with cash dividend increases. In cases where no cash dividend increase accompanied a stock dividend the stock prices dropped 12% below the general market in the following six months after ex-dividend date. This measurement of stock prices discloses that the stock's competitive cash-dividend paying power, as contrasted with general market dividend action, is the determining factor in achieving a real price gain.

The study provides ample evidence that the market price takes into account the stock-dividend dilution—that the marginal demand which determines price is not based on the assumption that stock dividends, per se, enhance market value. Regardless of how some recipients may regard stock dividends, appraisal of stock dividends as equivalent in value to their per share market price is certainly not reflected in annual price performance over the one-year period studied.

Even when a short price run-up follows the announcement of a stock dividend, it is not known how much is contributed by the inevitable speculation that a cash-dividend change may follow. Undoubtedly, cash rate speculation plays an important part, just as it does in certain cases of non-stock-dividend issues at the cash-dividend meeting date. But in neither case should accounting requirements be based on considerations of possible shareholder reaction.

Sometimes, too, a price run-up may result in part from a flurry of interest surrounding the consolidation of fractional share interests. To this extent, it is not significantly different from the interest associated with shareholder buying and selling of warrants during a rights offering. In neither case would the imposition of special accounting limitations serve any functional purpose.

CONCLUSION

Consideration therefore should be given to the issuance of stock dividends on the basis of par or stated value, or average issuing price, computed in whatever way best conforms to state law in the corporation's home state.

As has been said, adoption of a limiting standard more consistent than market value as the basis for earned surplus transfers would allow greater regularity in dividend policies and better management control in the corporate planning function. Consistency in size and regularity of such dividends would not then be at the mercy of future stock-market fluctuations. Management should not be required to speculate on the future levels of the stock market in formulating a regularized stock-dividend policy.

Fortunately, this problem already has been recognized to some extent by the New York Stock Exchange, which recently liberalized its market-value requirement to permit surplus transfers beyond the amount of current earnings so long as an adequate surplus exists. Moreover, the Exchange already has opened the door to corporations which need a larger dilution than 24% (and less than 100%) to maintain a popular price range, yet cannot meet the market-price basis for the earned surplus transfer.

It is to be hoped that accounting and listing authorities will take the next logical step and put such transfers on the recommended par or stated value basis in the near future, to permit the greater shareholder growth that more consistent and regularized stock-dividend policies may accomplish. Thus corporate policy and intent, rather than accounting principles, would become the determining factor in the accounting treatment prescribed for stock dividends.

FOOTNOTES

1. New York Stock Exchange Co. Manual, p. A-235.

2. "Restatement and Revision of Accounting Research Bulletins," No. 43, issued by Committee on Accounting Procedure, American Institute of Accountants, 1953, chapter 7, pp. 49-54.

3. Ibid., p. 49.

4. Ibid., p. 50.

5. Ibid.

6. Ibid., p. 51.

7. "The Investor, His Capital Needs a Living Wage," Remarks before The Association of Stock Exchange Firms, February 17, 1958, Washington, D. C.

8. Ibid.

9. "Evaluation of Stock Dividends," Harvard Business Review, July-August, 1958, p. 99.

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Statement of consolidated income • Nine months ended September 30

	1958	1957
Net Sales and Other Income	$200,875,582	$219,129,472
Cost of Sales and Expenses (Exclusive of charges set forth below)	155,049,516	157,475,498
Depletion, Depreciation and Amortization	18,503,619	18,437,229
Provision for Federal Income Tax	4,294,893	11,209,296
NET INCOME FOR THE PERIOD	$ 23,027,554	$ 32,007,449
Net Income Per Share Common Stock	$ 1.75	$ 2.44
Shares of Common Stock Outstanding	13,126,753	13,126,753
Cash Dividends Paid—Per Share	$ 1.20	$ 1.20
Net Crude Oil and Natural Gas Liquids Produced—Barrels	26,693,000	29,344,000
Crude Oil Processed at Refinery—Barrels	11,136,000	11,289,000

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Deflation—What Is It?

B. BARRET GRIFFITH

FROM THE ACCOMPANYING CHART one notes the similarity between the periods 1895 to 1920 and from 1933 to 1949. Both are marked by rapidly rising gold reserve ratios followed by declines and stable commodity prices, followed by inflationary price spirals. The drop in the reserve ratio preceded the 1929 recession, although it would be misleading to conclude that this decline timed the 1929 affair. The gold reserve ratio reached an all time high in 1940, declined to 1948 and then advanced to 1952, since when it has been declining. Again, it would be incorrect to conclude that decline in the gold ratio was timing any economic event.

However, it isn't necessary that every index time an economic event to be of value. It is enough for an index—like the ratio of gold to currency—to be a thermometer to be of value. A series, or index, does not have to be barometric to have value. Looked at in this light, it is probably more reassuring to investors when the thermometer-like index, showing the ratio of gold to currency, is plotting upward, then when it is declining. Violent moves, up or down, in the ratio of gold to currency are noteworthy but less important to the investment community than is the level and trend of this thermometer-like index, which records temperature more than it does future possibilities in the investment climate.

From the chart the ratio of gold to currency declined from 1860 to 1876; advanced from 1876 to 1890; declined from 1890 to 1894; advanced from 1894 to 1917; declined from 1917 to 1921; advanced from 1921 to 1926; except for the 1930 devaluation flurry, declined from 1926 to 1933; advanced from 1933 to 1940; declined from 1940 to 1947; advanced from 1947 to 1952; declined from 1952 up to and including the present time.

Also from the chart one concludes that stable, and slowly advancing commodity prices are encouraging to investors. Both inflationary spirals and sharply declining commodity prices are disturbing to investors—and seem to mark unhappy economic times. Interestingly, the three commodity price peaks came at the end of the Civil War, World War I, and World War II (continued by the Cold War). Price peaks came at the end of wars and when the public was conditioned to the belief that both war and inflation were everlasting. Commodity price troughs have come about 15 years after the war peaks and at moments when the public sentiment was at very low ebb and majority discussion was concerned with excess inventories of goods and productive facilities.

HISTORICAL INFERENCES CITED

Because the ratio of gold to currency has been declining since 1952 (our monetary gold stocks have been declining since 1949 although claims have risen) and because both commodity prices and stock prices are around all-time peaks of the last several years, there may be justification for emphasizing the historical inferences from the long-term chart picturing almost 100 years of economic events in the speculation that the 15 years following 1948 might be something like those which followed 1865 and 1918. In any event, similarities may justify the judgment suggesting conservatism and at least consideration and study of deflation, now that everyone seems to know all the details and ramifications of inflation.

An entire generation has been born, and reached maturity during the last 25 years, while the commodity price level has been steadily rising. Consequently, many people cannot conceive of a price decline. Undoubtedly, this same general psychological condition existed prior to important price declines in the past. On the other hand, it took only 3 years of deflation to condition people to conclude that low commodity prices were permanent and a price advance was impossible.

There have been times when prices declined for years. It is not intended to be prophetic and predict this event now.

Table I

	1866	1872	1878	1884	1890	1896
Per Capita Money in Circulation	$18.99	$18.19	$15.32	$22.65	$22.82	$21.10
Gold Price of Bushel of Spring Wheat at Chicago (Annual Average)	1.32	1.24	0.96	0.82	0.89	0.64
Wholesale Price in United States (1860=100)	190.7	138.6	101.2	99.2	92.2	76.3

Table II

	1872	1877	1890	1896
All Stocks	40.4	25.2	42.4	34.1
Industrials	24.2	18.3	30.4	22.6
Railroads	46.0	28.3	48.4	38.3
Utilities	76.6	44.6	74.0	76.8
Coal	89.8	29.3	34.5	19.8
Miscellaneous Services	34.3	29.4	52.7	45.1
Shipping & Shipbuilding	582.2	166.0	244.4	107.9
Mining & Smelting	387.4	163.3	37.2	37.1
Telephone & Telegraph	40.7	39.6	74.6	89.4
Railroad Equipment		4.9	19.2	17.7
Steel & Iron			45.9	18.4
Miscellaneous Manuf.			157.6	42.6
Sugar Prod. & Refining			67.1	97.6
Electrical Equipment			19.3	5.8
Holding Companies			49.8	8.1
Household Prod. & Supplies				55.4
Auto Tires & Rubber Goods				74.7
Leather				180.6
Utilities-Traction, etc.				319.2

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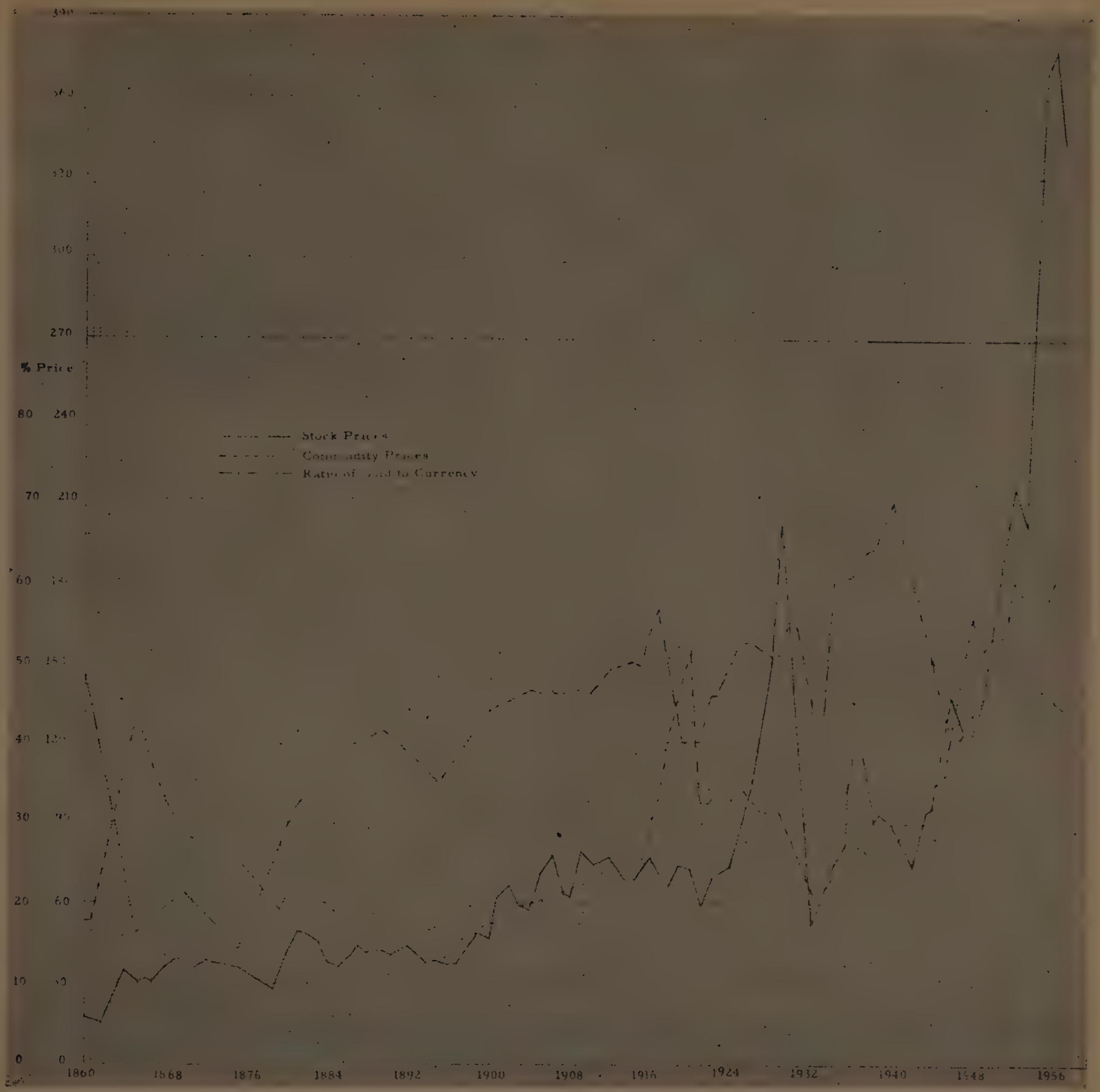

It is intended to recall the 60% decline in the general price level between 1814 and 1849, and the price decline from 1865 to 1896 of 65%, as examples of facts which occurred in our economic history when everyone was convinced that war and inflation were everlasting and that price declines were impossible.

Many people remember in detail the history following the end of World War I—the 15 years following 1918. So it may be of more interest, and of just as much value, to recall some facts and figures of investment importance for the period following the Civil War.

Federal expenditures per capita in 1860 amounted to $2.00; they increased to $37.00 in 1865; were $14.00 in 1866 and declined to $4.40 in 1884. Federal expenditures rose comparatively during World War II and the Korean conflict, but unfortunately have yet to decline. Military pensions accounted for 20% of all Federal expenditures in 1884 compared with 3% in 1866, and this experience is not unlike the present and recent past. Federal expenditures on public works totaled $4.5 million in 1866 and increased to $17.3 million in 1882 and this trend is comparable to post World War II although the amount of expenditures (like all Federal expenditures) are unbelievably different.

In January 1866, a congressionally appointed tax commission recommended complete repeal of a multitude of excise and nuisance taxes and the elimination of the income tax. It is interesting to note that the Federal tax burden then was $13 per capita, or less than 9% of national income, and today this tax burden is above 25% (all taxes appear to be just under 40%).

Apparently, in the areas of Federal spending, Federal taxes, depreciated paper money, gold, monetary affairs and majority opinion, there is considerable likeness between post World War II and post Civil War times. You will recall that Civil War greenbacks and irredeemable paper money and soft credit were replaced by hard money and our subsequent surge of progress. The hard money and gold redemption debate had just started in this era.

If, different from present majority opinion, we are to experience years of declining commodity prices similar to 1865-1870 to 1896, it may be worth while to note the Civil War statistics in table I. Further, it could be profitable to note common stock groups and their price trends from 1872 to 1896 as shown in table II. These tables are self-explanatory.

Apparently, the common stocks which did best after the Civil War, for the long-pull investor, and during the long period of declining prices, were Utilities, Miscellaneous Services, Telephone and Telegraph, Railroad Equipment and Sugar Producing. Stable earnings group and those common stock investments representing real growth issues (remember that the Trans-Atlantic cable was laid and Trans-Continental railroads were built) did well. Investments and speculations, depending primarily on increasing prices for profits, did poorly.

FINANCIAL EVENTS OF 1890's

1890 . . . January 1 . . . Bank rate raised to six. Gold withdrawals (bank rate raised on December 30).

February 7 . . . Introduction of American silver bill.

April 2 . . . "Announcement of legal decision to effect that United States Courts have power to overrule decisions of Interstate Commissioners."

July 9 . . . Financial crisis in Uruguay.

September 10 . . . Monetary stringency in New York.

September 24 . . . "Failures of South African Banks."

October 15 . . . "Collapse on London Stock Exchange."

November 11 . . . Baring failure.

1891 . . . March 11 . . . Financial crisis in Paris.

August 19 . . . European harvest said to be bad. (United States harvest prospects good)

September 30 . . . Failures in New York—U. P. funding scheme settles.

November 4 . . . Failures in New York.

1892 . . . November 23 . . . Erie dividend passes.
Gold shipments from the United States.

1893 . . . January 19 . . . "suspension of note issue by the bank of France."

April 13 . . . London speculation in South African shares.

April 27 . . . "suspension of London chartered bank of Australia." Fall in "colonial stocks and shares." Followed by banking collapse in Australia.

May 10-11 . . . collapse on the New York Stock Exchange. Gold exported.

June 21 . . . "Indian mints closed against free coinage of silver."

1895 . . . January end . . . "depletion of United States treasury reserve."

November 20 . . . Panic in Vienna and "crisis in Paris and London."

November . . . Venezuelan trouble.

1897 . . . December 15 . . . money very tight.

1898 . . . April 6 . . . fall on stock exchange owing to American and Spanish relations.

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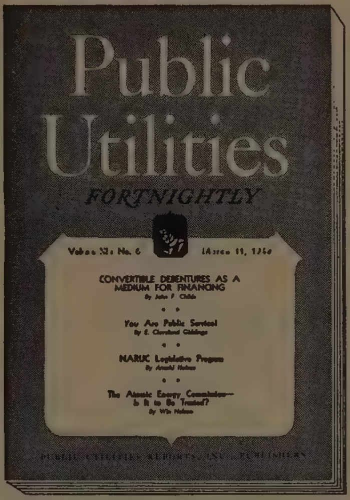

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A Case for Municipal Bond Funds

RICHARD W. GRIMM

LEGISLATION TO MAKE FEASIBLE the establishment of municipal bond funds has progressed through Congressional machinery sufficiently to warrant optimism that it will be voted into law in the next session. Harassed municipal officials, seeking a market for the ever-increasing flow of bond issues now being voted annually, are hopeful that some of their problems will be answered by this much-needed adjustment of a contradiction in the Federal tax structure.

Regulated investment companies—the so-called mutual funds—pass through to their shareholders the dividends and capital gains on their regular investments without an intermediate layer of taxes, on the theory that investment companies act as a conduit between their shareholders and the corporations in which their funds are invested. Under the current law, however, the same benefits do not apply to investment companies dealing in tax-exempt securities—municipal bonds.

If an individual buys tax-exempt securities directly, he gets the benefit of tax exemption. If he buys them through regulated investment companies, he loses that benefit. Obviously, this rule practically precludes the purchase of tax-exempt municipal securities by regulated investment companies, so municipal officers are excluded from a potentially broad and fruitful market and many investors are for all practical purposes denied the opportunity of owning municipal bonds.

The inequity was pointed up by President Eisenhower in his economic message to Congress for three straight years. Worried about the plight of the municipalities, the President said in 1956:

"Smaller communities seeking to raise capital for public improvements would also be aided by a revision of the Federal tax laws to allow a regulated investment company, holding the bulk of its assets in the form of tax-exempt securities, to pass through to its shareholders the tax-exempt status of the income received on such securities."

Again, in 1957, President Eisenhower pointed out:

"The expenditures of State and local governments are now about half those of the Federal Government, and their recent rate of increase has been considerably higher. The principal objects of this increased spending are schools, highways, and the variety of community facilities required by population increase and the rapid growth of suburban areas. In view of the exceptionally high demands for the labor, materials, and equipment needed to carry out these projects, it is inevitable that not all of them can go forward as rapidly, or on as large a scale, as may be desired. Financial considerations also may require some rescheduling of proposed projects, since State and local governments with large borrowing requirements have already encountered heavy competing demands in the capital markets. Some improvement in the ability of these governmental units to finance their projects would result from an amendment of the Internal Revenue Code to extend the 'conduit principle' to regulated investment companies that hold their assets in State and local securities. The amendment, which would involve no loss of revenue, would permit regulated investment companies of this type to pass through to their stockholders the tax-exempt status of the income received on State and local securities. The Congress is requested to enact legislation to accomplish this result."

The President's sentiments were echoed by state governors across the land, by mayors of many of our large cities, and by the men who have to go into the market place for the funds to meet municipal obligations. Commendably cautious, as befits any subject with tax consequences, Congress has carefully appraised the legislation on its course through the necessary preliminaries. In the first year the Treasury Department clarified the language and checked administrative details. In the second, the House Ways and Means Committee weighed it at length. Last year the measure passed the Senate. And this coming year legislative experts think it will finally be enacted.

This will be good news to municipalities, whose financial problems have increased greatly in recent years. Consider briefly the growth in the demand for municipal financing and the failure of traditional markets to keep pace.

FINANCING WAS HANDLED BY SMALL GROUP

Until the last decade, financial support for municipal financing was readily available because the demand for funds was modest and a relatively circumscribed investment market was adequate. In the decade starting in 1937 new annual issues never exceeded $1.5 billion, and in most of that period the new issues simply replaced the old ones, and the entire financing program was handled by a relatively small group of wealthy individual investors and institutions.

So long as the volume of new issues was balanced by maturing issues, the traditional markets were sufficient, but as the number of new issues started to increase appreciably, these traditional markets could not absorb the progressively rising demand for funds. Starting in 1947 with new issues totaling $2.4 billion, the municipal volume increased each year until it reached a high of $6.9 billion in 1954. Concurrently the total municipal debt outstanding, instead of remaining relatively static as it had through the previous decade, rose correspondingly from $15.7 billion in 1946 to $37.4 billion in 1954.

Figures for the three years since 1954 are illuminating. In 1955 and 1956 the total dollar volume of new issues decreased slightly, because of a drop-off in the tremendous amount of toll road financing which had been accomplished

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in 1954. The total volume of loans outstanding, however, increased by practically the same amount as the new issues; in other words, the volume of securities maturing was insignificant as far as providing capital for new issues, just the opposite from the situation only a decade ago. At the end of 1956, municipal loans outstanding totaled approximately $48 billion.

In 1957 the problem became acute. State and local governments borrowed more than $1.3 billion in the last quarter of 1956, but another $191 million was offered and withdrawn when no purchasers could be found, and voters approved nearly $3 billion of additional bonds which were not offered until 1958. Municipal officers, faced with the problem of marketing the issues, encountered frustrating resistance, due partly to the tight money situation and partly to the narrowness of the market (which has not expanded appreciably from the traditional group of large individual and institutional investors). In addition, municipal officers were faced with the problem of increased interest rates, which will burden the community for the life of the bond issue.

Toward the end of 1957, the change in Federal monetary policy eased the situation somewhat, but the total volume continued to grow and final figures for the year reached $6,925,000,000, approximately the same as in 1954 even without the impetus of toll-road financing. The upward trend has continued in 1958, with first-half figures of approximately $4,250,000,000 indicating a total volume of more than $8,000,000,000, the largest in history by a billion dollars.

The problem is by no means transitory. Demands for increased municipal financing are concomitants of the rise in population. As the population grows, so grow demands for more municipal services: schools, fire and police protection, water, utilities, roads and the like. Current projections indicate a 35% increase in population over the next two decades, and total volume of new municipal financing may reach an annual rate exceeding $10 billion in ten years. If this be the case, demands for funds to support municipal projects will be increasingly insistent over the next ten years—and the problem of municipal officers will be correspondingly more complex.

In the decade ending June 30, 1957, municipal debt outstanding was 316% of the amount outstanding June 30 of 1947, whereas United States Treasury and Federal instrumentalities debt was only 98% of the amount outstanding as of June 30, 1947.

MUNICIPAL FINANCING DEMAND CLIMBS

Since 1954, total municipal debt outstanding has shown an average annual increase of $5.8 billion. In the forty years, 1913-1953, the average annual increase in debt was $0.69 billion. These figures point up the tremendous demand for municipal financing which, at this writing, shows few signs of abatement.

It is clear, therefore, that the market for municipal obligations must be broadened substantially if states, cities and towns are to fulfill even the most modest requirements for the welfare of their citizens. Regulated investment companies would provide at least part of the answer, assuming that the enabling legislation becomes law.

Regulated investment companies serve a very large group of smaller investors. They were established to provide all investors with the benefits of low-cost professional selection, desirable diversification, and continuing supervision for their investment capital, benefits previously available only to large investors. Regulated investment companies now are entrusted with more than $11 billion for investment on behalf of more than three million shareholders.

A nation-wide distributing system now exists, making it simple to contact hundreds of potential investors and acquaint them with the advantages of owning tax-exempt securities.

Since the traditional market for municipal bonds has been relatively restricted to large investors, there has been little opportunity for a small or medium investor to purchase municipal securities. There has been even less opportunity for a small investor to protect his capital through diversification among several municipal offerings. Investment companies, using exactly the same principles that have produced such excellent results for more than a quarter century, could market municipal obligations in a proper form for small and medium investors. They could offer full professional selection, diversification, and marketability regardless of the size of the individual investment.

Regulated investment companies cannot solve the municipal financing problem overnight. If the current contradiction in the tax structure should be amended, however, they could offer some immediate relief to the present situation. And they could offer progressively more relief in the future as they expanded the process of educating small and medium investors to the advantages of owning tax-exempt securities. Five years from now, regulated investment companies could be a very important factor in marketing municipal obligations. Any help, no matter how small at the beginning, would radiate through the entire market and be helpful to all segments.

A regulated investment company with a portfolio consisting of municipal bonds would attract to municipal bond investment a new group of investors. It would attract those individuals for whom municipals are an advantageous investment, but who lack information about municipal bonds, or who have neither the means nor the inclination to select their own municipal investments, or who are reluctant to make the total capital investment in municipals which prudent diversification requires.

To these investors a regulated investment company invested in municipal bonds would offer the following advantages:

1. *Professional management.* The research and supervisory staffs which would have been operating for many years in the investment company field would analyze the offerings of all municipalities, select the bonds that appeared to have the soundest current values, and maintain constant supervision over the portfolio.

2. *Diversification.* The regulated investment company bond fund would offer all shareholders the benefits of multiple diversification: many different issues, instead of

one, thus spreading the risks; and diversification in type of bond, geographical distribution, and maturity dates.

3. *Continuing information about his investment.* The prices at which shares of the investment company could be bought or sold would be computed under SEC rules. The same prices would be available at the same time to investors all across the country. Most major newspapers would publish the prices every day, and investors would get complete semiannual financial reports from the investment company.

4. *Modest share prices.* Shares of municipal bond funds would be offered to the public at prices in the area of $10 to $25 per share. The investor of moderate means would be able to enter the municipal bond market, to which he is presently denied access because of the prohibitive cash outlays (ranging into many thousands of dollars) necessary in order to make investments.

5. *Liquidity of shares.* Shares of regulated open-end investment companies may be redeemed for cash at their liquidation value on any business day. The investor in municipal bond fund shares would hold a liquid investment and would therefore be able to avoid two serious problems which confront any investor in municipals today, the lack of a ready market for the bonds and the difficulty in selecting flexible maturity dates.

6. *Benefits of large-scale and professional purchases and sales.* Mutual funds would deal almost exclusively in large blocks of bonds, and purchases and sales would be made by men with years of experience. This would often result in lower purchase and higher sales prices, the advantages of which would be passed along to the shareholder.

7. *Automatic reinvestment of income and capital gains if desired.* An individual owning municipal bonds would have to wait until he accumulated sufficient income (approximately $1,000) from his holdings in order to purchase another bond. With a municipal bond fund, he could choose to have his income reinvested twice a year, regardless of the amount, thus allowing a more rapid compounding of tax-exempt interest.

8. *Minimizing or, in some cases, completely eliminating the problem of safekeeping.* Municipal bonds are most often issued in bearer form. In order to be negotiable, these bonds must carry with them a legal opinion which is a separate document. Anyone owning such bonds would need to arrange for the safekeeping of both the bonds and the legal opinion which could entail additional expense. Under certain conditions, the owner of municipal bond fund shares, could elect to receive no certificate, thus relieving himself of all safekeeping problems. If he wishes to have the shares in his possession, he would have the problem of safekeeping only one certificate which would represent his share of a portfolio containing dozens of different municipal bond issues.

9. *Elimination of the problem of reinvesting the proceeds from called or maturing bonds.* If an investor "loses" his bonds because of maturity or call, he must make a decision as to what to buy to replace them. Inasmuch as bonds tend to be called when interest rates are low, he is very apt to be forced to reinvest at relatively unattractive rates. If he takes the chance of waiting for more desirable rates, he may sit a long time on the sidelines with his funds earning no income. Municipal bond fund shares would have no maturity or call date.

10. *Avoidance of coupon clipping.* Taken by itself, the requirement of clipping a coupon from a bond and taking or sending it to a bank for collection, is hardly so difficult as to discourage an investor from buying an individual bond. On the other hand, the periodic receipt of a distribution check from, or the crediting of his account by, a municipal bond fund would relieve the investor of some inconvenience and would minimize the chance of the investor's neglecting to clip his coupons when they became due. This last would occasion some loss of income while the coupon was lying idle.

Of all the advantages mentioned, I believe continuous professional management to be the most important. Let us consider some of the details the investor is relieved of by this management.

The first decision to be made would involve the fundamental objective. What else could this be in a municipal bond fund but the highest income consistent with safety of principal?

The only true measure of the success of an investment of funds for income is the amount of return and stability such an investment affords. If all returns and investment quality were equal, there would be no need for supervision. It would simply be a matter of buying the highest yields obtainable at a given time. Such is not the case, however. Oftentimes an issue will provide a higher return than another of like quality only because its fundamental attractiveness is not known. Another issue, originally of very high quality, may become a high-risk investment because of basic changes going on in an area. The balancing and blending of yield and quality, unlike Justice, cannot be done blindfolded. It is an eyes-open operation and requires day-to-day followup that can best be provided by experienced professional management operating within a sound portfolio diversification plan.

NEED FOR CONTINUOUS REVIEW

In a municipal portfolio, I believe that diversification plans should encompass: (1) Quality; (2) Geography; (3) Maturity; (4) Type of obligation; and (5) Liquidity.

Quality diversification would require the management of a fund to review continuously not only the issues making up its portfolio but other issues which might seem likely candidates to replace certain portfolio issues.

In considering the general obligation bonds of towns and cities these factors should be weighted:

1. Gross debt
2. Net debt
3. Actual or true value
4. Assessed value
5. Overlapping debt
6. Self-supporting debt
7. Net debt ratio
8. Net debt per capital
9. Per capita income
10. Type of Community

11. Default record
12. Current economic condition
13. Economic trend
14. Debt limitation
15. Tax limitation
16. Financial record (tax collections, current account) current and trend
17. Current political climate and trend
18. Industry diversification
19. Labor climate
20. Population trend

In appraising revenue bonds the following points should be considered in conjunction with the points listed above:

1. Historical coverage (income less operation and maintenance vs debt service)
2. Current coverage
3. Coverage trend
4. Additional bond features
5. Type of service provided by bond issue (water, electrical, gas, airport, etc.)
6. Sinking fund provisions
7. Value of plant
8. Engineers' estimates
9. Need of facility
10. Possibility of competition from another facility.

Geographical Diversification—minimizes the risk of an unexpected or sudden deterioration of the economic position of any particular municipality or area. Although such developments are not common, the sudden decline of an industry upon which an area is dependent would have an important effect upon the population, income and property values of the area, with a corresponding effect on the market appraisal of the bonds issued by this area.

It should be expected, of course, that changes in basic economic conditions in an area would be foreseen by alert management before the quality of the bonds could be materially affected, but it is only common sense and sound investment practice to avoid having a concentration of holdings in any particular region.

Maturity Diversification—protects the portfolio from two things which could seriously affect it if all holdings were concentrated in a single maturity period. In the event of a very strong municipal market which would mean lower interest rates, the investor might have his bonds called in for payment before maturity. Although this might not result in a capital loss and could result in a profit if he paid less than the call price for his bonds, he would be forced to accept a lower rate of return on his funds. Also, in the event of a weak municipal market during which period voluntary calls would not be common, he would be unable to take advantage of the high yields which were available.

With a spaced maturity pattern, however, the portfolio would very likely have some bonds maturing during these weak markets and be able to take advantage of the higher yields. While it is true that some of the bonds might be called or that some of the bonds might mature during a strong municipal market, forcing a reinvestment at relatively lower rates, the portfolio would never be subject to wholesale reinvestment at perhaps an inopportune time.

Type of Obligation Diversification—There are four main categories of municipal bonds:

1. General obligation
2. Revenue
3. Revenue-general obligation or "double-barreled"
4. New Housing Authority bonds

While the first two are by far the most common, a portfolio could well be made up of bonds in all categories. Although diversification by type is not as important as other means of diversification, it does provide another check as to the concentration of funds in any one direction.

Liquidity Diversification—protects the investor from the losses which he might suffer in the event that he owned a lesser known bond which he was forced to sell in a very weak market. A sufficiently high percentage of the portfolio should be kept in those issues which can be quickly sold in any kind of market. Just as the six-room house can be more readily sold than the forty-room mansion, so can certain municipal bond issues be sold more quickly than others. Maturity diversification should be arranged so as to assure a continuous flow of money which could be invested at varying levels of the market.

Now where would all this leave the analyst for the originating firms in the municipal bond field? Their position would be strengthened, if anything. Municipal bond houses would continue to sell to their normal markets and they would also sell to the managers of municipal bond funds as the market was broadened and made available to small and medium investors. Demand for municipals would be increased, so careful analysis of issues would be even more important. In general, anything that helps the market helps all aspects of it.

If legislative experts are correct in their prognostication that enabling legislation will pass in the next session of Congress, municipalities and their embattled financial officers should find life considerably easier. The small and medium investor will find himself on an equal basis with his wealthier brothers. Mutual fund organizations will have a complete service to offer their clients. And, municipal bond houses will be faced with the happy task of providing suitable securities for a vastly expanded market.

* * *

At Milan's Borsa Valori, members are not happy; in fact so unhappy these days that trading is slow. Reason: reluctance on part of the investors to operate under a law that "violates" their ancient right to dodge the internal revenue collector.

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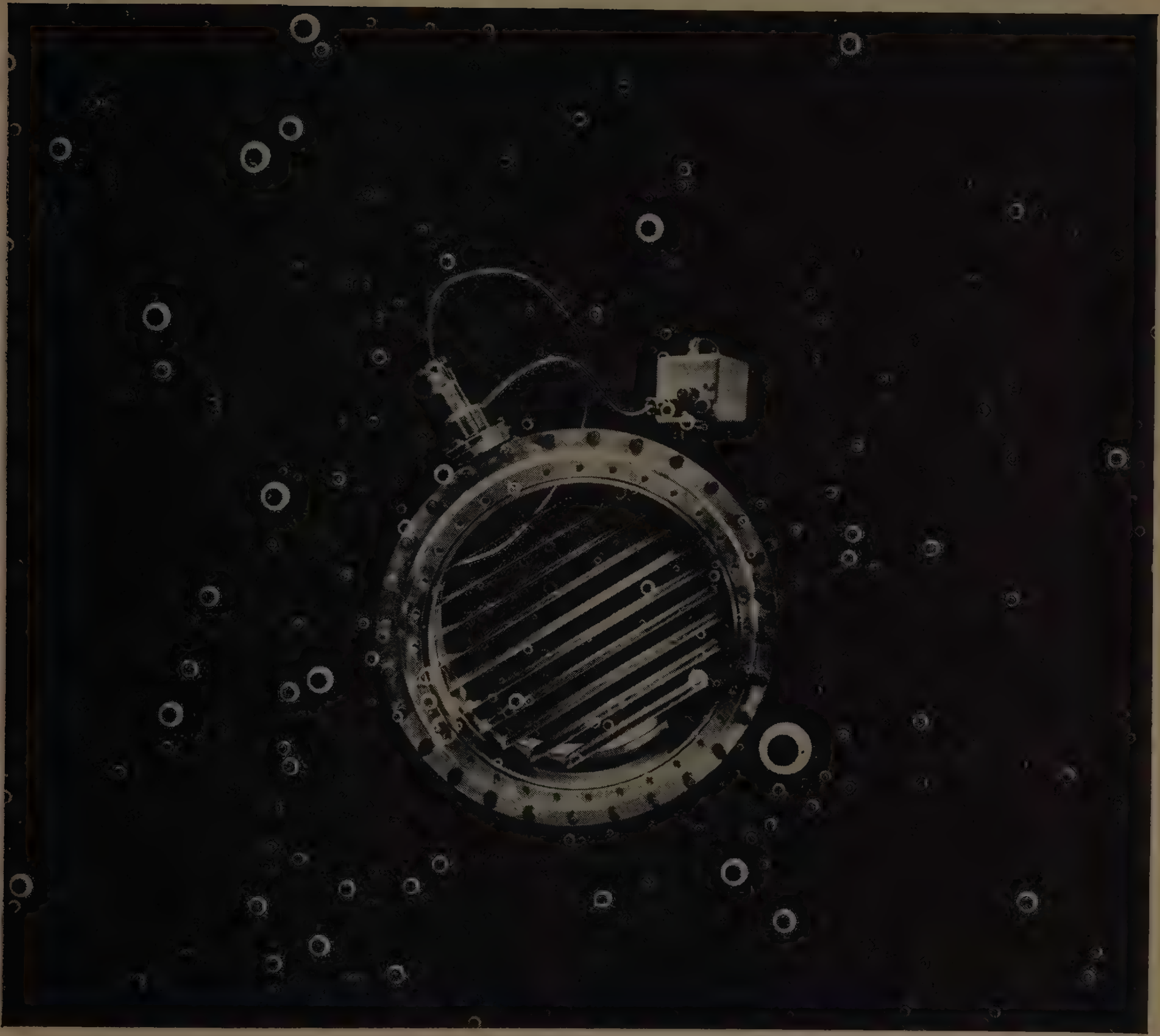

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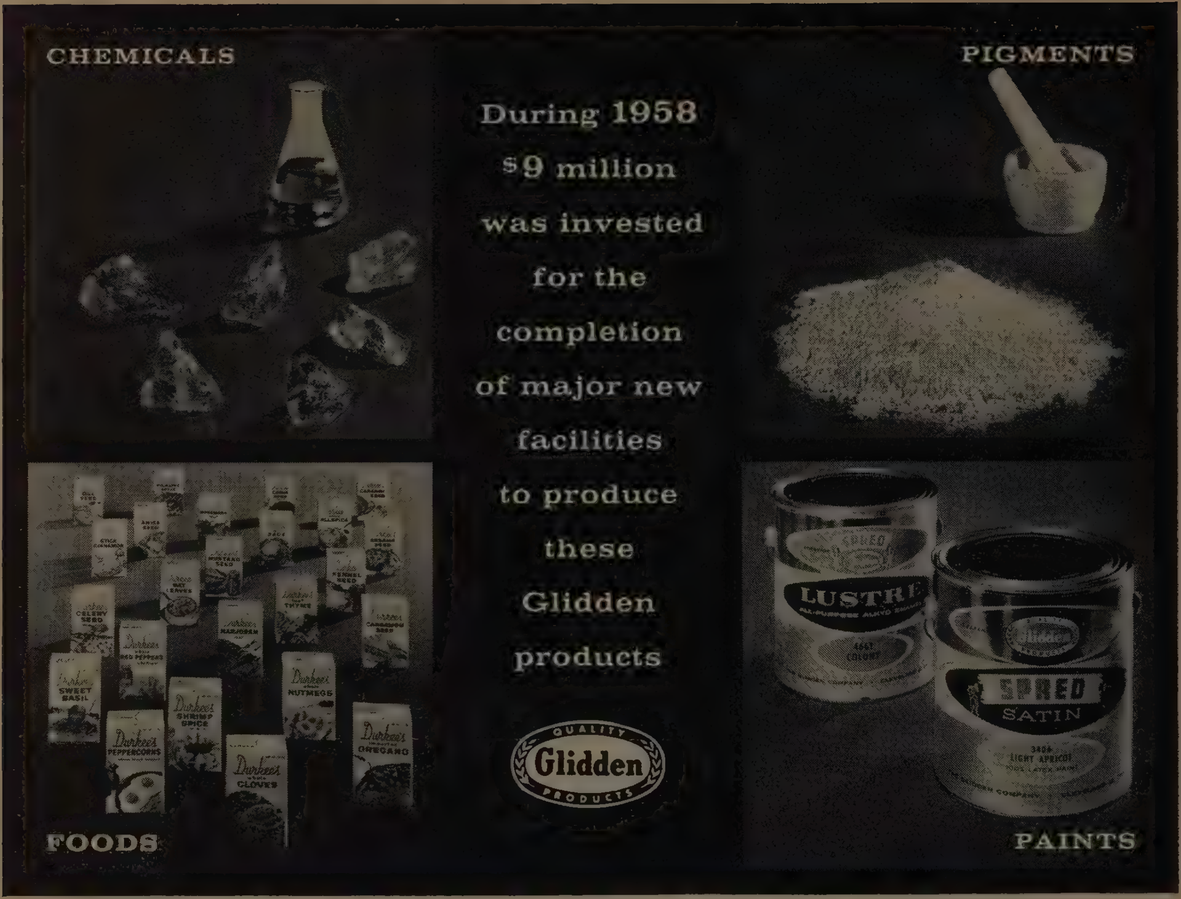
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FINANCIAL HIGHLIGHTS from the 1958 annual report

	1958	1957
Net sales	$217,352,681	$225,537,291
Income from operations	14,224,874	15,668,621
Income before taxes on income	12,350,062	15,387,437
Taxes on income	6,287,000	8,123,000
Net income	6,063,062	7,264,437
Per common share	2.64	3.16
Cash dividends declared	4,596,340	4,594,340
Per common share	2.00	2.00
% of net income	75.8%	63.2%
Earnings reinvested	$ 1,466,722	$ 2,670,097
Depreciation and amortization	5,838,032	5,046,378
Per common share	2.54	2.20

	1958	1957
Expenditures for plant and equipment	$ 9,214,395	$ 12,465,415
Working capital	52,572,371	53,100,132
Current ratio	3.64	2.96
Shareholders' equity	87,303,838	85,837,116
Per common share	37.99	37.35
Shares outstanding	2,298,170	2,298,170
Number of shareholders	22,405	21,686
Number of employees	6,353	6,455
Wages, salaries and employee benefits	$ 37,278,752	$ 37,008,568
Per employee	5,868	5,733

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Birth Rate as Economic Stabilizer Weighed

GEORGE D. FREEMAN

MUCH HAS BEEN SAID in the popular as well as in the financial press about the value of an increasing birth rate as a stabilizer and general benefactor of the economy. We would like to review this idea.

In any economy the wealth of the economy and the average wealth of the individuals comprising it are determined by the quantity of goods and services available for each member of the economy. It is immediately apparent that for any given supply of goods and services the fewer people there are among whom these must be divided, the wealthier each individual in the economy must be. On this basis the lower the birth rate the richer each member of the economy will tend to become, since less production of capital goods will be required, labor will concentrate on the production of consumer goods, and as the supplies of durable consumer goods become adequate for the diminished population, only quickly consumed goods will be needed with existing facilities now more than adequate to produce them. As has been pointed out in many popular stories, in the event of rapid reduction in the population each individual becomes richer and richer until, as the population approaches extinction leaving the accumulated goods of earlier generations for the remaining few, each becomes almost infinitely rich.

It is therefore obvious that in liquidating economy each individual is much better off than in an economy which is rapidly growing in population, through a high birth rate. In this case the increasing population must be supported by the labor and capital of the numerically smaller older generation. And only under conditions where a relatively small amount of labor may produce large quantities of goods and services per unit of capital do we find it possible to support the high birth rate without drastically reducing the standard of living. Since such a condition is one of great prosperity, a high birth rate is commonly associated with great prosperity. This association is very proper except that the birth rate results from the prosperity and is not a cause of it.

The indications so far are that a decrease in population produces wealth for each individual. There is of course a limit to this condition. In a primitive economy the number of people may not be sufficient to accomplish many operations. A single man cannot produce food, construct shelter, produce clothing, and study ways of improving all of these activities, in an efficient manner. An increase in the population to the point that each of these activities may be specialized will greatly increase the efficiency of the economy. But it must be remembered that growth of population is only of benefit to the economy as a whole when it will permit each branch of the economy to function more efficiently and produce a greater supply of goods and services for each of the increased number of individuals.

Now, a period of prosperity for the economy as a whole might be described as one in which the supply of goods and services most nearly meets the requirements of the greatest possible number of people. The economic errors which produce want and depression would be largely lacking. Among these would be: the permanent dislocation of sizable amounts of labor for only temporary work, the production of consumers goods at prices which the consumer does not wish to pay, the production of capital goods in excess of the needs of the economy, and the exhaustion of readily available raw materials so that more and more labor is required in the production of each unit.

From the point of view of the investor, an industry flourishes when profits and dividends, and of course the prices of the stocks of its constituent companies, go higher and higher as time passes. To have this happen requires a steadily increasing demand for the industry's product at a price which will command an adequate supply of raw material, which will be able to pay more attractive wages than the average of the economy, and finally which will permit an above average differential between the cost of this raw material and labor and the price of the finished product. Thus it is seen that any given industry may prosper under certain conditions, but in doing so it inevitably draws labor and materials away from other sections of the economy.

It might be noted here that conditions which benefit the investor in one or a group of industries may well harm the economy as a whole. A possible example of this situation is the tremendous selling drive in the automobile industry in 1955 which had the result of reducing the buying power of the entire economy for other items, and of inflating the cost of and disrupting the location of labor, and perhaps of reducing the supply and therefore increasing the price of raw materials which might otherwise have been used by other industries in a more efficient manner. Labor is still trying to relocate itself to meet the more normal needs of the economy. Buying power was reduced to such a level that the government felt obliged to sanction inflationary individual credit in spite of an avowed anti-inflationary policy. The demand for many materials was such that production facilities were expanded until there is now an overcapacity for these items at the present increased price.

As to the benefit to individual industries which might result from an increasing birth rate, we might expect that the first beneficial effect would be among the consumer goods industries. But this is only possible, without detracting from the economy as a whole, under circumstances where the increased demand for consumer goods might be met from each individual's surplus of production over his own needs. In other words, this would mean that the economy needs be prosperous, that the supply of consumer goods must be capable of indefinite expansion at little increase in unit cost. That is, ample raw materials must be

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available, ample labor must be available, and the additional capital needs must be moderate. If an increased production of consumer goods resulted in strongly increasing costs, the whole population would suffer through enforced denial of these or other goods and services, or by the deduction in capital accruals. Reduced capital accruals, or excessive capital requirements for the increasing of the supply of consumer goods, would limit capital goods available for normal improvement in the economy to meet changing conditions or new technology. The labor supply is capable of some elasticity, but excessive demands on it would inflate all labor costs, or reduce production elsewhere, or both.

TREND TOWARD LIGHTER CLOTHES

Since the first of the consumer goods industries, the food industry, at least in the United States, appears to be influenced most strongly by the up-grading of consumer desires, it does not appear that the relatively slow increase in the population through even a rapid rise in the birth rate would have any particular effect for some years to come. The growing infant foods industry is really an example of up-grading, since in this country infants have eaten regularly since the beginning of the nation, long before there was an infant food industry of any consequence. The clothing industry again seems to be far more influenced by styles and by technological developments, such as the development of nylon for stockings or sacks for dresses, than by changes in the size of the population. It might be noted that the textile industry has been in a state of almost chronic overproduction or overcapacity for many years in spite of strong surges in population growth. In passing, this would appear to be due to the reduction of the use of fabrics in the home, the trend toward lighter and simpler clothes and the building of new facilities in more favorable economic climate regardless of the total demands upon the industry, rather than to population change.

In the case of a capital goods industry, the creation of shelter, the major recent influence seems to have been the desire for individual homes, stimulated by the technological development of the automobile, and greatly stimulated by government policies, to wit, the supply of credit on very easy terms and the construction of highways permitting access to these homes by automobile. In the recent housing boom these factors in combination with the improved economic status of many individuals in the less wealthy and more populous sections of the economy has had a far greater effect than any change in the proportion of people reaching a given age per year. In the transportation industry government subsidy and psychological factors apparently have far outweighed any changes in the population. Even such industries as the household appliance industry have been much more affected by growth in the housing industry and by economic and psychological factors than by any change in the population.

It is very obvious that certain industries, the manufacture of teething rings, for example, would rapidly drop completely out of the economic picture if the birth rate were to drop to zero. As a matter of fact the successive effect of waves of population decline on different industries could be traced through almost the entire economy taken industry by industry as they become important to older and older age groups, so that the last industry still burgeoning would be the manufacture of wheel chairs and geriatric aids. With an increasing birth rate, of course, the opposite picture becomes true and each industry in turn should flourish as the increase in population becomes older.

Seriously, looking to the future in this country, the probability that a greater proportion of the population will be in the age groups prior to or past the years of economic productivity could perhaps mean that in future years the standard of living will decline, since workers will not be available in relation to the increased demand. It could well be, however, that increased technical or economic efficiency could far more than compensate for this trend.

AGE GROUPS CHANGING

In the field of services there is great possibility that changes in the relative age groups might be of greatest importance. So far the pressures of various groups such as labor unions have had the consequence, first, of reducing the number of years which a person may work in production of goods, and, second, of reducing the social desirability of performing services. But, since many services can be produced by those too young or too old to produce goods under present conditions, it could well be that this potential labor supply in combination with a threatened reduction of the living standard could result in great developments taking place in this field. Which, if any, industries might be influenced by this increasing utilization of services would remain to be determined by the types of services which became most acceptable.

Before leaving this subject we should note the effects of population change outside of this country, particularly in economically undeveloped areas. First, famines which have swept various localities seem to be due more to the cultural policy of raising families to the maximum limit of the individual economy rather than to any general increase in population. In other words, in cultures with almost no economic reserve a crop failure has resulted in famines in underpopulated lands as well as in those which had a much greater population per unit of area. Second, the great population increases throughout the world appear in general to be due to improved economic and technical efficiency, permitting greater production per acre of ground or increased trade with areas of greater productivity. As soon as the population is expanded to the point where individual living standards are so reduced that desire for children is inhibited, in all probability the population will reduce its rate of growth. Since our economic relations with such countries are regulated very strictly by governmental rather than by natural economic laws, any future mutual effect would seem to depend more on government policy than on changes in population.

In conclusion, it would appear that few important industries will be affected as much by population growth as by other commonly occurring influences. That in the over-all the individuals in the economy may well become less wealthy as population expands. And, finally, that population grows as a result of improved economic conditions but such growth does little to create them.

Some Considerations of the Infinite

MORRIS KRONFELD AND ARTHUR ROCK

AS THE PERIMETER of industrial technology is pushed further ahead by basic and applied research the investor and security analyst face problems that are temporarily unique and perhaps indeterminate of solution. Chief among these problems is the analysis of new product possibilities and the forecast of earning power that must be deduced from limited and even ephemeral data. The complexity of modern technology may, indeed, result in an intellectual barrier that can be surmountable in two ways. A securities firm can hire several scientists as a research department or, more in keeping with the propensities of analysts, it can have its present staff set up yardsticks to measure and define, however subjectively, the attraction of companies that are investments on the perimeter.

This brief discussion will set forth in summary fashion a few of the particulars of analysis that have been applied with modest success in individual cases. It will, further, attempt to gain perspective by keeping such cases in the environment in which they arise, namely, the growing, fluid, and uncharted fields of science.

* * *

Innovations in industry are familiar to economists and analysts. The fastest horse pulling the most streamlined, fin-tail surrey is not an automobile and the automobile, hence, is assuredly not a part of the evolution of either horses or surreys. The present state of scientific endeavor, however, militates against such luminiscent definitions as surreys and automobiles. A klystron and an X-ray tube are not TV tubes or radio tubes. On the other hand, are they fundamental departures? Will they result in a net addition to economic space in terms of new firms, markets, employment, and investment opportunities?

Modern science has blurred any semblance of clairvoyance that we may have occasionally enjoyed in the analysis of standard industrial problems. Dependable statistical standards in the new fields simply do not exist and, as one of the great economists put it, "We must put our trust in bold and unsafe mental experiments or else give up all hope."[1]

NUCLEAR ENERGY AND ELECTRONICS

Any analytical problem can be simplified and this is no exception. In this instance simplification occurs through the elementary assertion that those important changes providing attractive investment opportunities are confined in the main to two related fields, i.e., nuclear energy, (physics and chemistry) and electronics (physics and mathematics). Further, the opportunities are at a maximum, that is the most earnings and sales leverage exist, in small, relatively new, highly-talented companies. The viability of such companies, and the rapid birth of numbers of them, indicate a quasi-permanent form of disequilibrium and economic change.

There is solid statistical reason for concentrating attention on small companies, and this reason is dominated by the emergence of research and development as a major industry in itself. For example, the National Science Foundation has found that "A large majority of the companies conducting research and development are small manufacturing firms. Nearly 14,000 of the approximately 15,500 companies doing R & D work in 1953 were in manufacturing industries, and nearly 12,000 (85%) of these manufacturers has 8 to 499 employees. Only about 300 had as many as 5,000 employees."[2] Naturally, a good deal of such research and development work as is carried on by small companies is for purposes of national defense. The Atomic Energy Commission and the Defense Department have made possible the emergence of companies that have begun as nothing more than embryonic research groups.

Small and sometimes loosely organized research groups doing specialized work have found a relative ease of entrance and an unorganized market ecology in science. This is so, because organized and competitive markets imply a static position in terms of product and relative maturity of the respective companies. Neither condition exists in the complex atmosphere of the scientific perimeter.

Smaller firms can give as much if not more freedom of action to their intellectual-research elements as can larger firms. It is self-evident that a scientific virtuoso, an increasing rarity because of the group nature of much research, will have a greater impact on a small than a large company.

We accept science as a part of our national defense effort but such was not always the case. It is a far cry from 1916 when, the story goes, ". . . a representative of the American Chemical Society called on the Secretary of War, Newton Baker, and offered the service of chemists in the conflict. He was thanked and asked to come back the next day. On so doing, he was told by the Secretary that while he appreciated the offer of the chemists, he found that it was unnecessary as he had looked into the matter and found the War Department already had *a* chemist."[3]

A LOOK INTO THE FUTURE

For analytical purposes a government research contract is significant because it places a premium on intellectual capability. Charles Atlas' famous 100-pound weakling may not be the equal of a 200-pound tackle on the football field but both are faced with equal opportunity and problems in the laboratory. It must be emphasized that size is not a determining condition of success. Companies no longer have to be of sufficient size to be able to afford research. R & D is a part of its function and a portion of sales.

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[1] Footnotes appear at end of article.

Morris Kronfeld is treasurer of Evans & Co., members of the New York Stock Exchange. Arthur Rock is in the Corporate Department of Hayden, Stone & Co.

Those familiar with the R & D programs of smaller companies can make a proper criticism of such programs because they are in the main, in the area of applied, rather than basic or idea research. This criticism is not so much applicable to the companies involved (or our analysis) as it is to the national affection for hardware of one kind or another as tangible evidence of results. This attitude will probably be modified by the necessities of scientific defense. Our defense hardware today is, after all, a result of ideas that may be three or five or ten years in development. Additionally, the production of ideas through basic research is often more profitable over the long run than hardware that may become obsolete in a short period.

The modern transistor is a case in point. The chances that Bell Laboratories would develop such a device were good, not only because Bell has been a splendid leader in science but because it is also one of the pitifully few organizations that has emphasized basic idea development in science.[4] The original Bell work has been effectively elaborated by several companies, including Texas Instruments, General Transistor, and, latterly, by the excellent technical group of Fairchild Semiconductors Corp., sponsored by Fairchild Camera & Instrument Corp.

Research and development has become big business. The dollar cost of both basic and applied research at this time is in the neighborhood of $7 billion annually. An effort on this scale is bound to result in substantial long run structural changes in industry. For those who are impressed by large numbers it need only be pointed out that the Atomic Energy Commission laboratory facilities alone are valued at more than $500 million.[5] Over the years it is probable that a public investment of this size will generate something more useful than the pollution of the Pacific.

* * *

With such an active, albeit speculative, business environment the security markets will inevitably participate in a process of natural selection. Unless this selection is to be reduced to the approximate state of handicapping race horses, i.e., confined to an attempt to project past performances, some yardsticks for value comparisons must be evolved. Such criteria, nonetheless, are only as sound as the judgment of the analyst using them.

Of paramount importance is evaluation of management. This is a subject considerably more elusive than appraisal of management of conventional industrial companies. We have no dependable statistical measures such as net earnings per ton of ingot produced, or cost per barrel of discovery of new oil reserves. Managements of the several companies in the table below, however, would appear to share several attributes. They have made an ultimate judgment on resource allocation as betwen current production and future prospects or research effort. In an area of industry that is rapidly changing this is no facile decision.

A small firm coming to the point of profitability can stagnate itself out of business by lack of R & D and it can dissolve just as easily by going broke on remote projects. Successful management means the ability to select the few profitable and worthwhile ideas from the many without cramping the individualistic intellectual energies that may eventually produce a genuine bread-and-butter product. It should be said, also, that managements of these companies are not particularly well-rounded in terms of business experience. Their leaders are drawn from academic life, or may have been independent scientists or consulting research experts. The attributes of running an oil company or a steel company are, in fact, considerably different from running a company specializing in solid state physics.

SMALL COMPANIES CAN DOMINATE

Judgment of products is also subjective but at least the analyst has something concrete. Most of the small companies in the table produce highly complex, quite expensive and specialized equipment. There is a strong tendency for the individual companies to be in dominant market positions where technical abilities overshadow price considerations. Such companies are not easily challenged on their own specialized ground.

In many companies whose securities have had outstanding records a chicken-and-egg proposition is created. Does the product precede and create the market, or, does a natural need exist that is filled in a unique fashion by the product? Precedent may serve as guide. In the case of Electronic Associates, manufacturing over half the analog computors produced in the U. S., the company in its infancy demonstrated exceptional technical ability combined with excellent sales aggressiveness. But, it happened upon the business scene when utilization of such computors might have increased without its existence. This is a case where the company moved with its normal market but pushed development of the market much beyond what might have matured otherwise. The assumption that a new company in a rapidly expanding field has its errors erased by technical momentum simply does not hold in view of the fact that several other analog producers were forced to leave the field in varying states of disarray.

High Voltage Engineering is a different case. This company is one of the few in the world that makes Van de Graaf accelerators. These machines are capable of beaming nuclear radiation for a variety of uses, and are regarded as one of the finest pieces of equipment available. This market has limited dimensions temporarily and has required a supplying company with clearly delineated, even mature, technical qualifications. Both researchers and industry are learning the variety of uses of accelerators much as a few years ago they were feeling their way to the large-scale use of analog computors.

High Voltage may, in fact, be in the state of development that Electronic Associates was three years ago. If High Voltage had not been organized a considerable amount of private nuclear work would still go on but it would be confined to much narrower universes than at present. A particular set of customers had a specific problem solved by the evolution of a company willing to begin in a temporarily limited market. Again, the product filled the need and hastened the evolution of the market.

Hewlett-Packard is thought of by many in the industry as the leading producer of test equipment. It is, in fact, a vital portion of what can be thought of as the capital goods of electronics. We have seen the trend toward miniaturization extolled but, as precision increases, measurement becomes more difficult. Test equipment that measures and defines a whole new range of precision never achieved previously will become more commonplace in electronic plants. Hewlett-Packard occupies an extremely strong position in such work and, hence, will probably grow with its natural market and facilitate in significant ways the expansion of that market.

BEWARE OF THE 'LYRICS'

The analyst must also be critical of product lines and there remains the possibility of being inadvertently misled by what constitutes "growth" possibilities. This misdirection stems from the development and manufacture of what may, in fact, be quite elementary products confused with sophisticated and advanced products. In many cases, especially in the electronics industry, companies publish annual reports replete with attractive color photographs that are described in prose of lyric quality. The nontechnical stockholder may assume that products presented in this light are the sales and profits equal of a transistor (a simple looking piece of apparatus) or a travelling wave tube (which may look like an old-fashioned light bulb).

One could almost prefer old fashioned annual reports containing less romanticism. Additionally, there are a number of companies that may have been kept in a particular phase of defense work because of the possibility of future government need and a portion of whose production can be charitably described as electronic leaf-raking. Analysts skeptical of this point need only refer to Congressional hearings on the Defense Department budget for a more complete discussion.[6] The analyst is one person whose judgment should be sufficiently severe to make the necessary distinctions.

The investment community has as yet to meet a completely different kind of company but one that will probably become more common. It is exemplified by an excellent, if small, firm, Radiation Applications, Inc., of New York. While privately owned (25% by Schenley Industries) it has a genuinely broad-guage Board and a management that has demonstrated a sound sense of direction in the new branches and commercial implications of nuclear energy. It sells consulting services on a number of highly technical nuclear subjects and engages in and subsidizes research on such problems. Since technical talent is relatively high-priced in such fields it has enlarged the scope of its operations by association with younger university scientists. Over a long run period, that might in all honesty run a decade, it is hoped that commercial profits can be earned in the form of license fees or production of its internally developed products. Companies seeking to get into the newer developmental fields might well use Radiation Applications as an example of well thought out pure-idea operation.

* * *

In the statistical comparison below are several companies that are making excellent progress, in our opinion. All sell

STATISTICAL COMPARISONS OF SEVERAL APPLIED SCIENCE COMPANIES

		CGS Laboratories Oct. 31	Electronic Associates Dec. 31	Hewlett-Packard Oct. 31	High Voltage Engineering Dec. 31	Radiation Inc. Aug. 31	Sanders Associates July 31	Stavid Engineering Dec. 31	Varian Associates Sept. 30
Sales $(000)	1955	426	5,484	15,338	2,007	1,805	2,858	4,813	7,162
	1956	759	8,817	20,162	2,813	2,337	4,319	7,906	11,000
	1957	1,060	12,298	27,949	4,894	7,919	5,719	10,072	16,836
	1958					8,000E	9,000E		
Net Earnings After Normal Taxes $(000)	1955	. . .	492	1,316	106	187	90	96	433
	1956	34	930	1,803	168	219	136	202	502
	1957	83	1,002	2,403	421	343	252	239	763
	1958					375E	230E		
1957 After Tax Margins		8%	8%	9%	9%	5%	3%	2%	5%
No. Shares (000)		296 (2)	612	3,100 (2)	369	771 (1-2)	419 (1-2)	215 (2)	1,341
Price Per Share— October 10, 1958		9	40	33	40	16	18	36	28
Earnings Per Share On Present Number Of Shares	1955	. . .	.80	.42	.29	.24	.21	.45	.32
	1956	.11	1.52	.58	.45	.28	.32	.94	.37
	1957	.28	1.64	.78	1.14	.44	.61	1.11	.57
	1958					.49E	.55E		
Price/Latest Yearly Earnings		32X	24X	42X	35X	33X	22X	32X	49X
Net Worth $(000)		800E	3,988	8,091	2,593	3,889E	2,800E	1,976	7,249
Present Market Value of Company $(000)		2,700	24,500	102,300	14,800	12,300	7,500	7,700	37,500
Market Value/Net Worth		3.4X	6.1X	12.6X	5.7X	3.2X	2.7X	3.9X	5.2X

E—Estimate.
(1) Combined Class A & B shares.
(2) Including shares to be purchased on stock option or conversion below market. Net Worth does not include addition of option shares or conversion.

at substantial multiples of net worth and at handsome price/earnings ratios. Generous pricing of such securities, it seems to us, stems from several factors. As indicated above these companies are quite strong in their own specialized markets and are not easily challenged on their respective competitive grounds. Their products have a high unit value and in many cases such prices are simply not amenable to short run competitive change.

Further, the concensus of market opinion, especially as reflected in price/earnings ratios, is that the intellectual capital of such companies is perhaps their single most important element. We are aware of no other way of buying a call on the future of scientific development in these fields. In fact, the difference in net worth appraisals and price/earnings ratios between such companies and more conventional industrial companies can be termed an "intellectual premium." Individual analysts, of course, have their own lists of favored companies and the table is set forth more as an illustration of general statistical background than a recommendation of particular securities.

FOOTNOTES

1. J. A. Schumpeter, "Business Cycles," McGraw-Hill, New York: 1939, p. 13. This is one of the most widely unread classics in economics dealing with the capitalist system as a method of economic change. Many analysts, perhaps a majority, disagree with the theory of business fluctuations set forth therein but, nonetheless, as a statement of the mechanism of innovation it remains unsurpassed, in our estimation, in the formal literature.

2. U. S. Department of Labor, Bureau of Labor Statistics, "Science and Engineering in American Industry." Prepared for the National Science Foundation. Page 3.

3. J. B. Conant, Modern Science and Modern Man, Doubleday & Co., Garden City, New York: 1953. Page 53.

4. Bell has had outstanding management and its efforts are known to be well-directed and fruitful. The country has not been so fortunate with many of the huge government programs. As a model of chaotic organization the government in the research business is unexcelled. In "Federal Funds for Science," published by the National Science Foundation, some 25 agencies dealing with and administering research programs are cited. The absolute magnitude of government R & D figures is impressive but it is not at all certain that there is genuine direction or policy in this vital area.

5. "Twenty-First Semi-annual Report of the Atomic Energy Commission," U. S. Government Printing Office, Washington, D. C.: January 1957, page 372. See also "Research on Power from Fusion and Other Major Activities in the Atomic Energy Programs, January-June 1958," U. S. Government Printing Office: July 1958. The latter is a formidable volume but the lay reader need not be deterred. It contains a wealth of information on topics that may not now but will some day be of important investment interest.

6. Hearings Before The Subcommittee of the Committee on Appropriations, House of Representatives, Eighty-Fourth Congress, Second Session, "Department of Defense Appropriations for 1957, Procurement Policies and Practises of the Department of Defense, pp. 69-97." The object of this citation is not to denigrate Defense Department procurement policies. A large number of competent journalists have the subject well in hand. It is, rather, to emphasize the elementary proposition that all that glitters is not gold, particularly in annual reports.

Newport News Shipbuilding and Dry Dock Company

Quarterly Statement of Billings, Estimated Unbilled Balance of Major Contracts and Number of Employees

	Three Fiscal Months Ended		Nine Fiscal Months Ended	
Billings during the period:	**September 22, 1958**	**September 23, 1957**	**September 22, 1958**	**September 23, 1957**
Shipbuilding contracts	$25,521,267	$21,739,441	$ 87,341,143	$ 71,995,871
Ship conversions and repairs	5,228,526	8,027,118	17,663,123	28,300,313
Hydraulic turbines and accessories	3,323,793	592,428	6,503,888	1,593,518
Other work and operations	2,904,429	4,708,692	8,580,028	13,381,331
Totals	$36,978,015	$35,067,679	$120,088,182	$115,271,033

	At September 22, 1958	**At September 23, 1957**
Estimated balance of major contracts unbilled at the close of the period	$398,621,707	$489,659,587
Equivalent number of employees, on a 40-hour basis, working during the last week of the period	12,703	12,450

The Company reports income from long-term shipbuilding contracts on the percentage-of-completion basis; such income for any period will therefore vary from the billings on the contracts. Contract billings and estimated unbilled balances are subject to possible adjustments resulting from statutory and contractual provisions.

By Order of the Board of Directors
R. I. FLETCHER, *Financial Vice President*

October 22, 1958

University Students Study Stock Markets; Analyze Growth Possibilities—Then Invest

DR. V. McKEMIE BELT

MILLIKIN UNIVERSITY is a privately endowed liberal arts college in the Middle West. It is fortunate to be located in a community where the citizens are unusually proud of and interested in the welfare of the school. One such citizen donated $1,000 to the spring investments class in the School of Business and Industry, to be used as an investment fund. The purpose of the donation was to prove once again that "experience is the best teacher." An actual investment causes students to understand the technique of the market; helps them to overcome the inertia of making that first investment; gives them a sense of responsibility; and develops an awareness of market trends.

To gain the widest variety of experiences, the fund was divided into four equal parts of $250 each. It was decided to purchase common stock selling for under $20 from the New York Stock Exchange, the American Stock Exchange, the Midwest Exchange, and the Over-the-Counter Market. These securities were to be purchased through local brokers at regular commission prices.

The study of the market and the selection of securities were co-ordinated with the regular class lessons. For example, when the textbook covered the history and market techniques of the New York Stock Exchange, each student in the class was assigned approximately ten shares selling on the NYSE to study. They were to chart price movements, analyze the company's financial history, and use all the techniques of ratio analysis, with special emphasis on the stock's future earnings potential. All sources of information available to the students were to be explored. Subscription to the Wall Street Journal was a requirement of the course. The local brokers cooperated very well, and many of the students began to spend their spare time at various brokers' offices. A card file system was used and any information pertaining to their companies was recorded.

STUDENTS PICK A FAVORED STOCK

At the end of two weeks of intensive research, each student was requested to select from his list a company whose stock he felt would make a good investment. The students realized that they might, and of course many of them did, eliminate a security whose performance was very favorable during the next months. The student who eliminated Artloom in early February took quite a ribbing from his classmates when the stock more than tripled within the next few weeks.

Dr. Virginia Belt, center, is shown inspecting a buy order held jointly with A. W. Duffy, senior member of Merrill Lynch, Pierce, Fenner & Smith. Students are: Larry Armstrong, left, and Charles Gaw. Man in background is a telephone clerk.

After the student made his selection, he presented his choice to the class in an oral report. From these reports, the class, as a group, selected six companies whose common stock appealed to them. The merits of the six choices were argued, at times loudly and voraciously. Later the class regretted that it did not take the advice of either of the men who argued that the class was going to make a dreadful mistake if it did not choose Minute Maid or Raytheon. The student whose choice was Fruehauf got a tremendous boost on the day of final voting from an announcement of a large government contract awarded to Fruehauf. In selecting this stock, the class said: "Fruehauf Trailer was selected from the New York Stock Exchange as an aggressive stock, temporarily undervalued, but offering potentials of better than average growth. Future outlook is favorable for Fruehauf because of the growing demand for trailers in the piggyback operations. Expanding military deliveries will also continue to increase Fruehauf's sales and earnings. Fruehauf's income has been down, like all companies in the automotive field, so the common stock of Fruehauf was purchased at a low, bargain (we hope) price."

The procedure used in making a selection from the New York Stock Exchange was followed, but more efficiently as the students became more adept in the use of research techniques, in making selections of three other securities.

ASE GETS CAREFUL STUDY

The class next turned its attention to the American Stock Exchange. The securities listed on this market were the most difficult to analyze. Current information on many of the companies was lacking. Many of the low-priced securities seemed exceedingly speculative. Students were

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Dr. V. McKemie Belt holds a Ph.D. and is associate professor of finance at Millikin University, Decatur, Ill. She is also the author of articles on securities and economics.

fascinated by such companies as Chromalloy, Cuban American Oil Co., Molybdenum, and Mesabi Iron. One student remarked that he felt as if he had taken a course in mineralogy. Because of the large number of interesting warrants offered on this market, the class took up the study of warrants and rights. After reading the text material and the "Speculative Merits of Common Stock Warrants," a broker was asked to discuss the subject with the class. Warrants were reluctantly rejected as being too speculative for our purposes. By a slim majority of one vote, Rath Packing was selected. In arriving at this conclusion, the group was guided by the company's excellent past earnings record; by Department of Agriculture reports on a favorable meat-grain ratio; by reports of bumper crops and increased marketing of pigs; and by a report in "Tide," stating that Rath was leading the way in the distribution of pre-cooked frozen meats. In analyzing their purchase, the class said: "Meat packing shares are now favored by brokers as an undervalued group, which is due for an increase in price with the development of a more favorable grain-meat ratio. Since grain is relatively cheap, it is more expedient for the farmer to feed it to livestock than to sell it. Increased marketing of livestock will reduce cost and increase margins of profit for the packers. Rath was selected because the price has been driven down by a dividend omission in 1957. Rath is a leader in the field of prepared frozen foods, especially meats. Rath's advertising program is rated as one of the best in the industry. Finally, Rath has a local plant in Decatur." The students watched in dismay as Rath stock receded in value and failed to keep pace with other meat-packing stocks. The reasoning seemed to be right, but the choice wrong.

OVER-THE-COUNTER STUDIED

After studying the textbook and other pamphlets on the Over-the-Counter Market and visiting a local broker's office to see Over-the-Counter transactions, the class was ready to select a security from that market. They were amazed at the wide variety of securities offered. They studied investment analysis techniques for banks and insurance firms, but the self-imposed price limitation eliminated securities of those institutions. Also covered was the bond, both government and corporate, as an investment vehicle. After much debate, the class selected Bowater Paper. Since this is a British company with large timber holdings in Canada and the United States, the purchase of this security involved a study of the taxation aspects of an investment in a foreign corporation. This provided an opening for study of the entire tax structure as related to common stock investment, and it proved to be a fortunate selection for the class.

MID-WEST EXCHANGE VISITED

The final security was selected from the Mid-West Stock Exchange. The class had arranged for a field trip to Chicago to visit the Midwest Exchange and the Board of Trade. Through their host firm, Merrill Lynch, Pierce, Fenner and Smith, arrangements were made to purchase the stock in Chicago and follow its purchase on the floor of the Exchange. This provided the fillip to the experiences of the class. The choice had been narrowed to Ashland Oil, and Baldwin, Lima & Hamilton. On the floor of the Exchange, the class decided on Ashland Oil, a domestic oil company.

Who is to gauge the value of these experiences to the individual class members? They experienced the thrill of seeing their stock advance in price and also the disappointment of seeing their money "disappear." They fully realize the import of paper gains and losses. Perhaps it is to their credit that they did not panic and sell out part of their securities at a loss. They were not fortunate enough to pick a special situation stock which has doubled in price, so they gained no overly optimistic concepts. The value of their stock appreciated about 5% and they received two dividend payers. Most of them have lost any "get-rich-quick" illusions they might have had, but most also realize that, with careful study and analysis, investment in common stock is not excessively risky. Twelve of the 50 members of the class made some small stock investments with their own funds. In each case it was an investment for the long term, with money which they would not need for a few years.

The class had the privilege of trading the securities at any time during the semester, but left the portfolio intact. Next semester, the investments class will manage this portfolio as well as invest another $1,000 which has been promised by another good citizen who believes indeed that "Experience is the best teacher."

Richmond Financial Analysts Inaugurate 7-Course Seminar

On October 27 a seminar for junior analysts got under way in Richmond, Va. It is being sponsored by the Richmond Society of Financial Analysts, and will consist of seven sessions.

In explaining how the seminar operates, John B. Purcell, vice president and chairman of the seminar committee, said: "The purpose is to supplement courses in security analysis and investments being given by the University of Richmond and the Richmond Professional Institute."

"Emphasis will be placed on the techniques of security and investment analysis in those fields not normally or adequately covered by the general survey courses in security analysis and investments," Mr. Purcell further explained.

This seminar is open only to members of the Richmond Society of Financial Analysts. Enrollment is limited. And as it is a participating seminar, "all those who enroll are expected to attend all sessions." The fee is $15.

Topics for the seven sessions are:

"Economic Forecasting"; "Analysis of Federal Reserve Operations in the Money and Government Securities Market"; "Techniques of Analyzing Bank Stocks"; "Techniques of Analyzing Revenue Bonds"; "Techniques of Analyzing Life Insurance Stocks"; "Techniques of Analyzing Fire & Casualty Insurance Stocks"; and, "Growth Stocks, a Mixture of Fact and Fiction."

"Daddy, How Do I Look?"

Yesterday it was dolls and pigtails and small scuffed shoes. Suddenly it's her first grown-up "party dress"—and a little girl is a young lady.

The things a family needs don't always come easily. There are times when any father may be pressed to provide them.

Those are the times when a Beneficial loan proves its value . . . meeting unexpected needs with a small loan service that is friendly, dignified and dependable . . . and geared to family requirements both in amount and repayment schedule.

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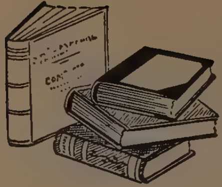
Beneficial Building, Wilmington, Del.

MORE THAN 1,100 OFFICES IN THE UNITED STATES, CANADA, HAWAII AND ALASKA



BOOK REVIEWS

THE GENERAL SEMANTICS OF WALL STREET. Author and publisher, John Magee, Springfield, Mass. 414 pp. $12.00.

Some years ago (1941 to be exact), Hugh Walpole wrote a book called "Semantics—the Nature of Words and Their Meanings." It had quite a success. But it was not quite definitive enough for the sharp-pencilled men of Wall Street.

So, today (publication date this November) John Magee comes out with a book titled "The General Semantics of Wall Street."

In this book, which consists of over 80 chapters, the author outlines some of the basic principles of general semantics, with special reference to their meaning in the stock markets. Based on modern concepts of perception, the book discusses the psychological "traps and pitfalls" encountered in the market and elsewhere in life.

Here is a book which will touch off controversy, whether it be at Schwartz Restaurant (habitat of the New York Financial Security Analysts) or any of the other 21 gathering places of Security Analysts across the nation. For it's certain that there are enough challenging thoughts, ideas and statements in this book, either to prove or disprove theories of the day, or theories of the century.

There's no doubt that the author has strong feelings about the subject with which he's dealing. And it's largely this quality that makes the book what it is: a most fascinating compendium of the lore, the men, the psychology, and the money of Wall Street.

In a chapter titled "Dat Ol' Debbil Margin," the author says: "So far as outright ownership of stocks being safer than holding stocks on margin, that is one of those half-truths that can hurt you. For a great many people who have never even thought of buying anything on margin have lost a great deal simply buying 'good, sound stocks' for cash, and 'putting them away in the box.' These losses have been not only on account of the fluctuations in the stock market, but also . . . because of the fluctuations in the 'dollar market.' "

Among chapter titles in "The General Semantics of Wall Street" are: "The Big Game"; "Black Magic"; "The Primary Receptors"; "The Twenty-six Lead Soldiers"; "Let's Not Be too Anthropocentric"; "The Vagueness of the High Abstractions"; "An Example of the Dangerous Nature of Dichotomy"; "What Is 'Value'?"; "Balderdash Unlimited"; "I Am Interested Only in Income"; "But Still I Insist on My Dividends"; "Correlations and Causes"; "The Purely Mathematical Odds"; "Fractionizing Versus Maximizing"; and "The Method of Evaluation."

While there may be much that is "old hat" to financial security analysts and university professors, there is sufficient material within these covers to warrant it a place in the library (in fact, on the desk for a period) of all who make their living in and who write about the gyrations of the country's finance.

CREATIVE THINKING. By Charles S. Whiting. 168 pp. New York: Reinhold Publishing Corp. $3.95.

The importance of communication-in-industry (sometimes referred to as the "art of communication") has resulted in the publication of millions of words since World War II. Practically every magazine of national, and even regional, scope has published an article, or articles, along these lines. Several books on the subject have been published.

And now the Reinhold Publishing Corp. comes forth with, what might be termed "a preface to the importance of communication-in-industry"; it is titled "Creative Thinking."

"Creative Thinking" is the first publication in the "Reinhold Management Science Series." It is to be followed shortly, the publishers say, "by others on pertinent subdivisions of management science." As seen now, the titles in preparation are: "Fringe Benefits," by F. W. Wistert; "Labor and Industrial Relations," by Charles Wiedemann; "Statistical Quality Control," by D. H. W. Allan; and "Work Measurement," by Virgil H. Rotroff.

In its summation of these science series books, the publishers say: "Management today has reached a new professional level; crystalized and significant, it has taken its place in the orbit of other sciences. Every branch of industry and trade recognizes that successful commerce depends on proper management of goods and people."

A major portion of the initial book in the series concerns itself with operation techniques of creative thinking—group discussion methods, analytical or mechanical techniques that various persons or groups have found useful in stimulating them to produce creative new ideas.

"Creative Thinking," and the other books in the series to follow, should be of interest to an analyst.

BUSINESS BUDGETING. New York City: Controllership Foundation, Inc. 367 pp. $12.50.

Subtitled "A Survey of Management Planning and Control Practices," this study records in detail the budgeting policies and practices of several hundred selected American companies. The research is based primarily on two sources of materials: (1) data collected through observation and personal interviews, and (2) data collected through mail questionnaires

Analysis of personal interviews with 35 companies is high-lighted, with results of the mail questionnaires used to buttress the conclusions drawn from the personal interviews.

The publishers add: "It is hoped that an analysis of the utilization of budgeting will provide useful information for all those who are interested in the solution of management problems."

DECISION-MAKING, AN ANNOTATED BIBLIOGRAPHY. By Paul Wasserman with Fred S. Silander. Ithaca, N. Y.: Graduate School of Business and Public Administration. 111 pp. $3.50.

This is a McKinsey Foundation annotated bibliography. And by way of introduction, the publishers say:

"In spite of an increasing rate of publication on the topic, the scientific study of decision-making appears to be at an early state of development. Efforts to trace the literature through the maze of social and scientific shields are difficult, time-consuming and perplexing, for attempts to synthesize have been isolated and uncommon. . . . One instrument for bringing order to a subject is to attempt to rationally arrange and classify its literature. This is the fundamental objective of the present work."

A chapter that might be of particular interest to analysts is titled: "Mathematics and statistics in decision-making—decision theory; game theory; and operations research."

FEDERAL LENDING: ITS GROWTH AND IMPACT. By R. J. Saulnier, Harold G. Halcrow, and Neil H. Jacoby: National Bureau of Economic Research, Inc. 49 pp. $1.

A tremendous growth of federal loans, loan insurance and guarantee programs in the past thirty-five years, now constitute a second financial system in the United States. Compared to total debt of the nation, federal lending reached a high of 8 per cent in 1940. By 1950 it had fallen to 5.4 per cent, due in a large measure to the more rapid growth of private lending.

By 1953 the federally-sponsored agencies held nineteen per cent of the agricultural mortgage debt, twenty-eight per cent of its short-term debt, and an additional twenty-eight per cent under the Commodity Credit Corporation. Federal credit aid to business stood at just a little less than the outstanding total to agriculture. But debts of commercial banks to the Reconstruction Finance Corporation, and of savings and loan associations to the Federal Home Loan Banks were small compared to other federal lending. Aids to homeowners, home financing institutions, and builders have had a heavy influence throughout the housing field.

The impact of this on the economy was a consequent increase in the supply of agricultural products, a rise in construction costs caused largely by high prices of building materials. Private credit markets and practices have been profoundly affected by this increase in federal activity.

Federal agencies have tended to lengthen the maturities of loans. Thus they contributed to the increasing use of durable producers' goods by business enterprise in the American economy.

THE SEVEN FAT YEARS. By John Brooks. Harper & Bros. 240 pp. $4.00.

Here's a book highly recommended for the relaxing analyst who wishes to get away from charts, graphs and sharp pencils (temporarily, at least), but who still wishes to keep his feet firmly in Wall Street.

"The Seven Fat Years" is a witty chronicle of Wall Street during the boom years—the "boom years" being interpreted by Author John Brooks as from 1950 to the latter half of 1957. The action is portrayed in terms of men and events.

And, as the publishers say, here's a writer with a "total lack of financial background," but with a "novelist's interest in significant detail, suspense and human character." The detail is painted with a broad brush; the "suspense" won't topple you off the chair; but the human characters are on every page.

As stated above, this is a book for relaxation, with no money-making hints and no economic forecasts. Just good light reading for those who know Wall Street—as well as for those who would like to see some of the personalities usually hidden behind statistical charts, bar graphs and slide rules.

—WARREN BURNS

IBM

175TH CONSECUTIVE
QUARTERLY DIVIDEND

STOCK DIVIDEND

The Board of Directors of International Business Machines Corporation has today declared a quarterly cash dividend of $.65 per share, payable December 10, 1958, to stockholders of record at the close of business on November 12, 1958. The Board of Directors also declared a 2½% stock dividend, payable January 28, 1959, to stockholders of record on January 6, 1959.

C. V. BOULTON,
Treasurer

590 Madison Avenue
New York 22, N. Y.
October 28, 1958

IBM INTERNATIONAL BUSINESS MACHINES CORPORATION

TEXAS EASTERN

DIVIDEND NOTICE

OCTOBER 29, 1958

The Board of Directors of the Company has declared the following quarterly dividends, all payable on December 1, 1958, to stockholders of record at the close of business November 7, 1958.

COMMON STOCK	$0.35
PREFERRED STOCK	
5.50% First Preferred Series	$1.37½
5.85% Series	$1.46¼
5.00% Series	$1.25
4.75% Convertible Series	$1.18¾
4.50% Convertible Series	$1.12½
5.75% Subordinate Convertible Series	$1.43¾
6.70% Series	$1.67½
5.80% Series	$1.45
5.35% Subordinate Convertible Series	$1.33¾

Secretary

TEXAS EASTERN
Transmission Corporation
SHREVEPORT LOUISIANA

NATURAL GAS: Processing and Transmission
OIL AND GAS: Exploration and Production
OIL PRODUCTS: Refining and Transmission

FLINTKOTE

Manufacturer of the Broadest Line of Building Products in America

THE FLINTKOTE COMPANY
New York 20, N. Y.

quarterly dividends
have been declared as follows:

Common Stock*
sixty cents ($.60) per share
$4 Cumulative Preferred Stock
one dollar ($1) per share

Both dividends are payable December 15, 1958 to stockholders of record at the close of business November 20, 1958.

WILLIAM FEICK, JR.
Vice-President and Treasurer

November 5, 1958.

*121st consecutive dividend

GOOD INVESTMENT!

SELLING THE SOUTH is a good investment for the railroad that "serves the South"—because whatever helps the Southland grow and prosper helps Southern Railway, too. And our busiest salesman of all is our familiar symbol bearing Southern's industrial slogan, pictured here.

Year after year it appears in advertisements reaching millions of readers annually, inviting businessmen across the Nation to *"Look Ahead—Look South!"* for greater industrial opportunities. The record shows that this "traveling salesman" of ours does a good job of it, too.

In the six-year period, 1952 to 1958, there have been 2,086 major industrial developments along our lines alone. They represent an investment of almost $3.5 billion and have created many new customers for our transportation service. Keeping our "traveling salesman" busy selling the South helps keep the Southern busy as well.

Harry A. DeButts
President

SOUTHERN RAILWAY SYSTEM

WASHINGTON, D. C.

MODERN RAIL SERVICE FOR THE MODERN SOUTH!

THE SOUTHERN SR SERVES THE SOUTH

Tentative Program Announced For '59 Federation Convention

A tentative program for the 1959 convention of the National Federation of Financial Analysts Societies, to be held in Montreal, Canada, June 15-17, has been announced by A. Hamilton Bolton, executive vice president of the Federation. The Montreal Institute of Investment Analysts will be host at the three-day convention.

A full program of forums, management conferences, and trips has been arranged.

As it now appears, the Oil and Gas Forum will include representatives from Imperial Oil; Canadian Oils; and Alberta Gas Trunk. At the Pulp and Paper Forum, there will be representatives from Abitibi Power & Paper; Bowaters; and Canadian Pulp & Paper Association. And attending the Uranium Forum will be representatives from both the Canadian and United States Atomic Energy Commissions, as well as Algom Mines. Other firms have been invited.

Among firms to be represented at the Management Conferences are: British Columbia Power; British American Oil; Trans-Canada Pipe Line; Industrial Acceptance; Dominion Stores; and Hudson Bay Oil & Gas. Others have been invited.

Local trips will include visits to three breweries: Dow, Labatt's, and Molson's. Other scheduled trips are: Distillers-Seagram; Dominion Bridge; Canadian Petrofina; and Canada Cement.

An all-day out-of-town trip is scheduled for Ottawa, where various Canadian Government offices will be visited. Additional local trips scheduled are: Shawinigan Water & Power; Three Rivers, a leading Canadian pulp and paper company; and an all-day tour of the St. Lawrence Seaway.

A highlight of the 1959 convention follows the official three-day meeting. This is the Saguenay trip. Passengers will board a boat Wednesday evening (June 17) and set off downstream around dawn. It is planned to spend four hours in Quebec. On Friday, June 19, convention members will be guests of the Aluminum Company of Canada in Arvida.

The boat will return to Montreal, Sunday, June 21, in time for major connections. Cost of the boat trip is $90, excluding tips. Boat reservations are limited to 375, Mr. Bolton explained, and as of early November 250 applications had been received.

During the official three-day convention special events have been planned for wives of attending members. Also, the ladies will be invited to go along on the Ottawa trip.

The UNITED Corporation

The Board of Directors has declared dividends totaling 25 cents per share, payable December 15, 1958 to stockholders of record November 28, 1958.

Of the 25 cents per share, 10 cents per share is designated as a dividend paid from net investment income and 15 cents per share as a dividend paid from net realized gains on investments.

In June 1958 the Corporation paid a dividend of 10 cents per share from net investment income. Thus, total 1958 dividends will be 35 cents per share, the same as total 1957 dividends.

Of the total 1958 dividends 20 cents per share is from net investment income and 15 cents per share from net realized gains on investments. In 1957, 25 cents per share was from net investment income and 10 cents per share from net realized gains on investments.

November 13, 1958. WM. M. HICKEY, *President*

SEABOARD
FINANCE COMPANY

COMMON STOCK DIVIDEND

95th Consecutive Quarterly Payment

The Board of Directors of Seaboard Finance Company declared a regular quarterly dividend of 25 cents a share on Common Stock. Payable January 10, 1959, to stockholders of record December 18, 1958.

PREFERRED STOCK DIVIDEND

The directors also declared regular quarterly dividends of $1.18¾ on the $4.75 Sinking Fund Preferred Stock, $1.25 on the $5.00 Sinking Fund Preferred Stock, $1.25 on the $5.00 Convertible Preferred Stock, Series A and B, all payable January 10, 1959, to stockholders of record December 18, 1958.

EDWARD L. JOHNSON,
October 22, 1958 *Secretary*

Southern California Edison Company

DIVIDENDS

The Board of Directors has authorized the payment of the following quarterly dividends:

CUMULATIVE PREFERRED STOCK, 4.08% SERIES
Dividend No. 35
25½ cents per share;

CUMULATIVE PREFERRED STOCK, 4.24% SERIES
Dividend No. 12
26½ cents per share;

CUMULATIVE PREFERRED STOCK, 4.78% SERIES
Dividend No. 4
29⅞ cents per share;

CUMULATIVE PREFERRED STOCK, 4.88% SERIES
Dividend No. 44
30½ cents per share.

The above dividends are payable November 30, 1958, to stockholders of record November 5. *Checks will be mailed from the Company's office in Los Angeles, November 29.*

P. C. HALE, *Treasurer*

October 16, 1958

Find out what fun a train can be

Go Santa Fe

"The Chief way"

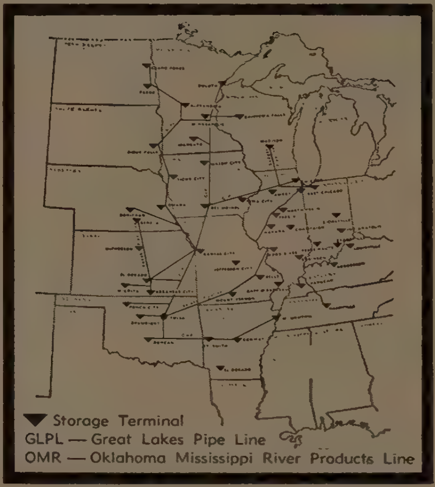
between Chicago and California or Texas

For reservations, consult any Santa Fe representative or Travel Agent.

Santa Fe

D-X Boron Isn't Sold Until You Get It There!

MOVING THE MERCHANDISE is no simple matter for an integrated oil company. D-X Sunray's Supply and Distribution Department at Tulsa, Okla., has the unenviable job of supplying 7,000 service stations, jobbers and dealers in 17 states with D-X Boron gasoline from two Oklahoma refineries.


▼ Storage Terminal
GLPL — Great Lakes Pipe Line
OMR — Oklahoma Mississippi River Products Line

D-X Sunray Distribution System in Mid-America.

FIFTY-TWO STORAGE TANK TERMINALS form the primary 'targets'. Once the refinery products reach these terminals, a fleet of transport trucks takes over the job and carries the 'merchandise' to D-X bulk stations, from which point they are distributed to local independent service stations and D-X Sunray distributors and dealers.

GIANT PRODUCTS PIPELINES, lacing the mid-west like so many arteries, carry the bulk of the refineries' output. River barges take over for distribution to market points on the Mississippi, Ohio, Illinois and Tennessee rivers. Heavy oils and waxes and some gasolines, destined for wholesale and commercial customers, frequently go by railroad routing. Ocean tankers take D-X Sunray products around the world.

Pipeline leaving refinery.

FORECASTING CONSUMER DEMAND is one of the most important functions of this Supply and Distribution department. Demand schedules are made up a full year in advance; actual shipping schedules are prepared 45 days ahead.

HOW MUCH WILL BE NEEDED at a station 1,000 miles away, a year from now? D-X Sunray's distribution staff can tell you...and they can get it there!

SUNRAY MID-CONTINENT OIL CO. and its subsidiaries are busy serving America around the clock, for today oil builds for your tomorrow!.

D-X is the brand name of quality products manufactured by D-X Sunray Oil Company, a wholly-owned subsidiary

Watch SUNRAY GROW!

SUNRAY D-X PETROLEUM PRODUCTS

SUNRAY MID-CONTINENT OIL COMPANY

PRODUCERS • REFINERS • MARKETERS

GENERAL OFFICES — SUNRAY BUILDING — TULSA, OKLAHOMA

Harbison-Walker Refractories Company

Board of Directors has declared for quarter ending December 31, 1958, DIVIDEND of ONE and ONE-HALF (1½%) PER CENT or $1.50 per share on PREFERRED STOCK, payable January 20, 1959, to shareholders of record January 6, 1959.

Also declared a DIVIDEND of $.45 per share on COMMON STOCK, payable December 1, 1958, to shareholders of record November 10, 1958.

G. F. Cronmiller, Jr.
Vice President and Secretary

Pittsburgh, October 30, 1958.

COMMON STOCK DIVIDEND

The Board of Directors of Central and South West Corporation at its meeting held on October 8, 1958, declared a regular quarterly dividend of forty-two and one-half cents (42½¢) per share on the Corporation's Common Stock. This dividend is payable November 28, 1958, to stockholders of record October 31, 1958.

LEROY J. SCHEUERMAN
Secretary

CENTRAL AND SOUTH WEST CORPORATION
Wilmington, Delaware

National Distillers and Chemical Corporation

N D

U.S.I.

DIVIDEND NOTICE

The Board of Directors has declared a quarterly dividend of 25¢ per share on the outstanding Common Stock, payable on December 1, 1958, to stockholders of record on November 10, 1958. The transfer books will not close.

PAUL C. JAMESON
October 23, 1958 *Treasurer*

American Metal Climax, Inc.

COMMON STOCK
Dividend No. 132

The Board of Directors has declared a dividend of Thirty Cents (30¢) per share on the Common Stock payable December 1, 1958 to stockholders of record at the close of business on November 21, 1958.

D. J. DONAHUE,
Treasurer.

PUGET SOUND POWER & LIGHT COMPANY

Common Stock Dividend No. 61

The Board of Directors has declared a dividend of 36c per share on Common Stock of Puget Sound Power & Light Company, payable November 15, 1958, to stockholders of record at the close of business October 22, 1958.

FRANK MCLAUGHLIN
President

Vice President

FOR ACQUISITIONS and INVESTMENT RESEARCH

We are looking for an outstanding man who is not just a statistician but, rather, a real analyst and able evaluator. He must be able to reach conclusions and to support his recommendations—not just write reports. His activities and responsibilities will encompass origination; evaluation of proposals submitted by others; negotiation; and administration of a small staff to work under him, which he would recruit and select. Combination investment banking buying department and investment research experiences, and a man in his thirties or early forties, preferred.

Employment would be with a large, unusual fund, with assets exceeding $25,000,000, whose principals are expanding the scope and nature of its activities. Starting compensation would be related to qualifications and most recent salary. Future compensation would be geared to achievement.

Replies must be detailed and complete, including present affiliation and salary. Recent example evidencing your qualifications on the above criteria would be extremely helpful. All replies will be treated in utmost confidence.

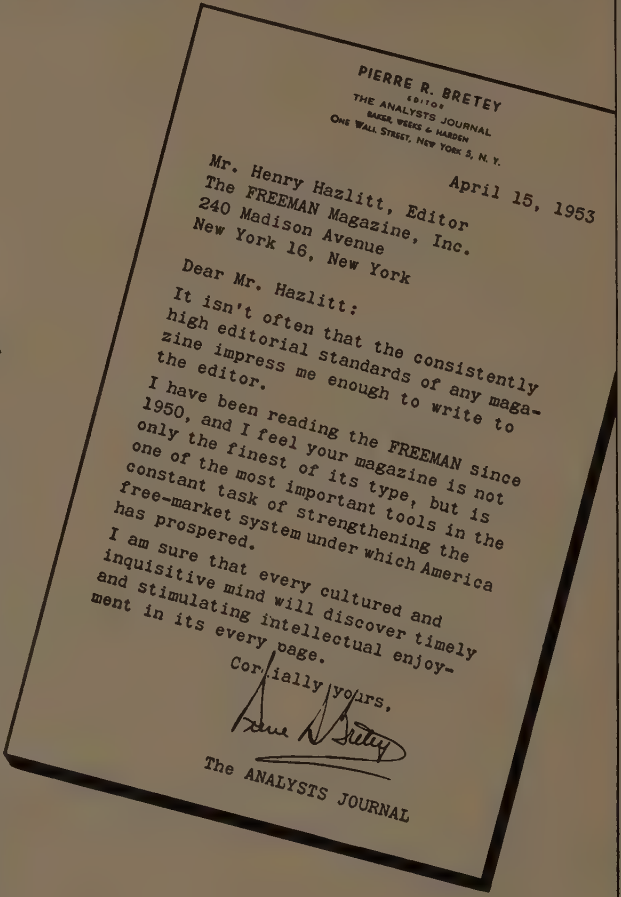
This is an unique opportunity for dynamic, creative association for a person who is anxious to have his worth measured by achievement—and who realizes that even Wall Street's underwriting and commission trees do not grow to the sky!

Dept. 29, P. O. Box 226, Church Street Station, N. Y. 8, N. Y.

Invitation to SECURITY ANALYSTS

As a member of one of our most important opinion-forming groups, may we suggest that you join the group of thinking people who read the FREEMAN?

Read what a leading analyst has to say. →



PIERRE R. BRETEY
EDITOR
THE ANALYSTS JOURNAL
BAKER, WEEKS & HARDEN
ONE WALL STREET, NEW YORK 5, N. Y.

April 15, 1953

Mr. Henry Hazlitt, Editor
The FREEMAN Magazine, Inc.
240 Madison Avenue
New York 16, New York

Dear Mr. Hazlitt:

It isn't often that the consistently high editorial standards of any magazine impress me enough to write to the editor.

I have been reading the FREEMAN since 1950, and I feel your magazine is not only the finest of its type, but is one of the most important tools in the constant task of strengthening the free-market system under which America has prospered.

I am sure that every cultured and inquisitive mind will discover timely and stimulating intellectual enjoyment in its every page.

Cordially yours,

The ANALYSTS JOURNAL

The professional analyst is an important barrier to the encroach of various forms of collectivism. His efforts in the investment and financial fields are of paramount importance in our capitalist system, and he is deeply concerned with our twenty-year drift towards socialism. For the analyst . . . and for all executives . . . who must be appraised of the trend and counter-trend of national and international economics as it affects the free enterprise system, the FREEMAN has become an important source of supplemental reading.

The editorial policies of the FREEMAN are clear-cut. In economics it upholds the free, private competitive enterprise system and the free market. In politics, the FREEMAN upholds the principles of constitutionalism, limited government, decentralization of power, and the rule of law.

The FREEMAN is unalterably opposed to government waste, government subsidies and handouts, government price and wage fixing, and all arbitrary barriers to production and trade. Most strongly, the FREEMAN rejects communism, socialism, collectivism and statism in every form.

You will find important material in the FREEMAN often distorted or ignored by our many writers and "economists." Guided by the distinguished writer-editor, Henry Hazlitt, the FREEMAN is recognized as a leading journal unique in the publishing world.

You are invited to join the roster of noted subscribers to the FREEMAN by returning the coupon with $1. You will receive a special three month (6 issue) trial subscription. May we suggest that you subscribe today?

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240 Madison Avenue
New York 16, N. Y.

Please enter my three-month (six issues) trial subscription to the FREEMAN. I enclose $1.

NAME__________ CITY__________ ZONE______

ADDRESS__________ STATE__________

YALE & TOWNE

Declares 283rd Dividend

37½¢ a Share

On November 20, 1958, dividend No. 283 of thirty-seven and one-half cents per share was declared by the Board of Directors out of past earnings, payable on January 2, 1959, to stockholders of record at the close of business December 10, 1958.

WILLIAM H. MATHERS
Vice-President and Secretary

THE **YALE & TOWNE** MANUFACTURING CO.
Cash dividends paid in every year since 1899

P. Lorillard Company

AMERICA'S FIRST TOBACCO MERCHANTS • ESTABLISHED 1760

DIVIDEND NOTICE

Dividend of $1.75 per share on the Preferred Stock of P. Lorillard Company, which otherwise would be payable on the first business day in January, 1959, by way of anticipation has been declared payable December 29, 1958, to stockholders of record at the close of business December 17, 1958. A final dividend for the year 1958 of $1.00 per share, plus an extra dividend of 95¢ per share, on the outstanding Common Stock of P. Lorillard Company have been declared payable December 29, 1958, to stockholders of record at the close of business December 17, 1958. Checks will be mailed.

G. O. DAVIES, *Treasurer*

New York, November 19, 1958.

Cigarettes

- **OLD GOLD STRAIGHTS**
  - *Regular*
  - *Crush-Proof Box*
- **OLD GOLD FILTERS**
- **KENT**
  - *Regular*
  - *King Size*
  - *Crush-Proof Box*
- **NEWPORT**
  - *King Size*
  - *Crush-Proof Box*
- **EMBASSY**
- **MURAD**
- **HELMAR**

Smoking Tobaccos

- **BRIGGS**
- **UNION LEADER**
- **FRIENDS**
- **INDIA HOUSE**

Little Cigars

- **BETWEEN THE ACTS**

Chewing Tobaccos

- **BEECH-NUT**
- **BAGPIPE**
- **HAVANA BLOSSOM**

UNITED FRUIT COMPANY

238th Consecutive Quarterly Dividend

A dividend of fifty cents per share on the capital stock of this Company has been declared payable January 15, 1959, to shareholders of record Dec. 12, 1958.

EDWARD D. TOLAND, Jr.
Secretary and Treasurer
Boston, Mass., November 17, 1958

REGULAR QUARTERLY DIVIDEND

COLUMBIA GAS SYSTEM

The Board of Directors has declared this day
COMMON STOCK DIVIDEND NO. 97
This is a regular quarterly dividend of

25¢ PER SHARE

Payable on November 15, 1958 to holders of record at close of business October 20, 1958.

Milton C. Baldridge
Secretary
October 9, 1958

THE COLUMBIA GAS SYSTEM, INC.

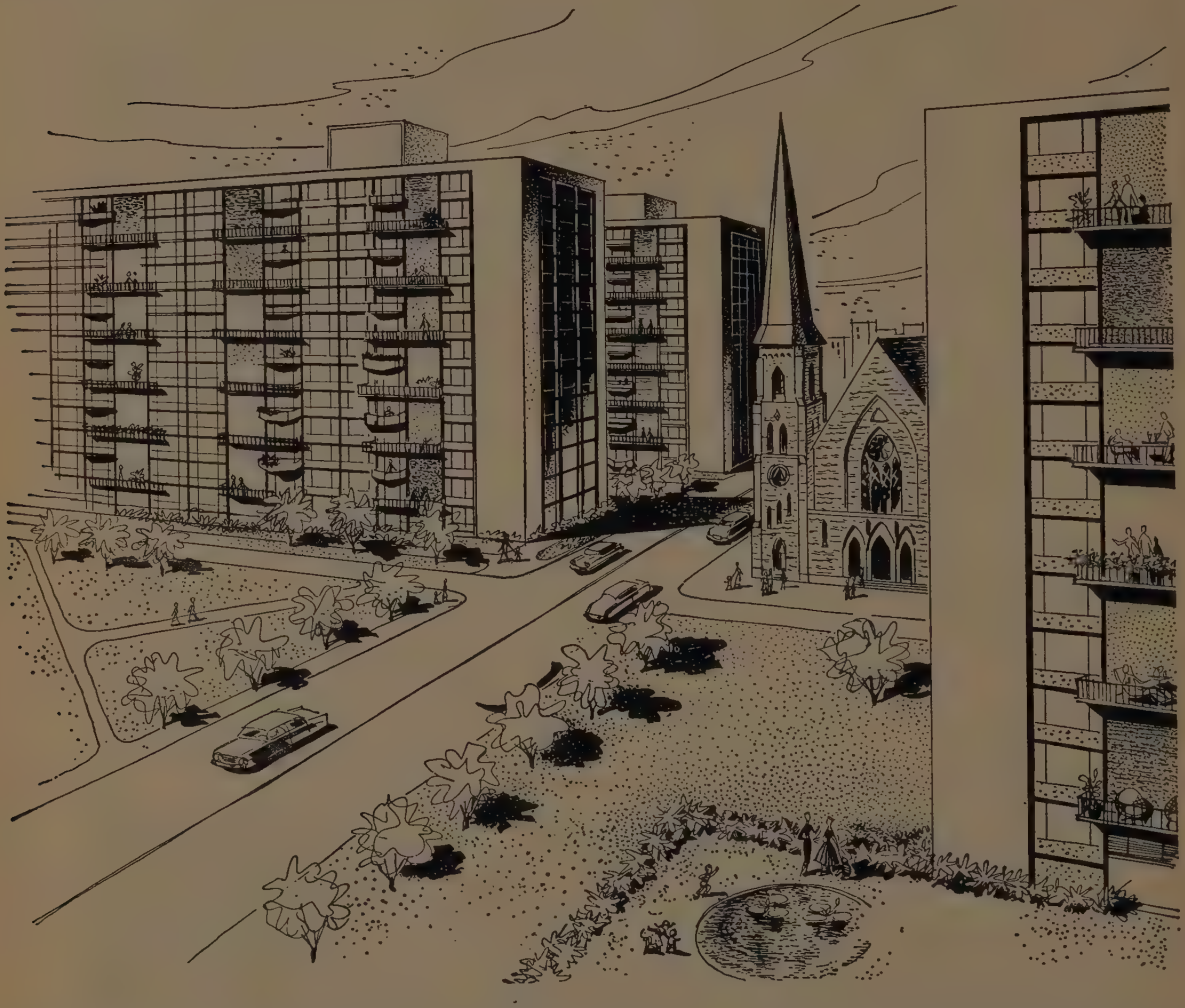
GENERAL PORTLAND CEMENT COMPANY

COMMON STOCK DIVIDEND

The Board of Directors of General Portland Cement Company has this day declared a dividend upon its Common Stock of 45 cents per share with respect to the quarter ending December 31, 1958, and a further year-end dividend of 50 cents per share, both payable December 12, 1958 to stockholders of record at the close of business on November 28, 1958. The stock transfer books will remain open.

HOWARD MILLER,
November 13, 1958 Treasurer

NEW HEART FOR ST. LOUIS . . . Not more than a few blocks from the city's main arteries of business, where the wrecker's "headache ball" was swinging a few months ago, a vast job of civic surgery is about to begin. The result will be the Plaza: $17 million worth of ultramodern, 13-story apartment buildings housing over one thousand families, who will be able to sit out on their balconies and see a great city growing greater around them.



The soon-to-be-built Plaza area in the heart of St. Louis is only one example of this city's determination to translate growth and prosperity into better living for everyone.

In recent years, St. Louis has replaced 193 acres of old dwellings with modern apartments housing 6,200 families. After the Plaza, 461 acres of additional outmoded buildings will come down and in their place will be built a modern "suburb within a city."

New highways, schools, libraries are being built to make St. Louis a better place in which to live . . . a better place for the future.

Providing for the future power needs of this fast burgeoning area is Union Electric's job. Already the company has doubled its capacity and its output in the decade just past. In the next five years, it will spend $290 million for more expansion.

Union Electric is a growing company in a growing St. Louis . . . "The Strategic Center of America."

UNION ELECTRIC

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DREWRYS

A quarterly dividend of forty (40) cents per share for the fourth quarter of 1958 has been declared on the common stock, payable December 10, 1958 to stockholders of record at the close of business on November 24, 1958.

Drewrys Limited U. S. A. Inc.
South Bend, Indiana
T. E. JEANNERET,
Secretary and Treasurer

233rd CONSECUTIVE
QUARTERLY DIVIDEND

Amount: 50 cents per common share

Date of Record:
DECEMBER 5, 1958

Date of Payment:
DECEMBER 31, 1958

E. J. DWYER
Vice-President & Secretary
NOVEMBER 5, 1958

THE ELECTRIC STORAGE BATTERY COMPANY

Public Service Electric and Gas Company
NEWARK, N. J.

QUARTERLY DIVIDENDS

The Board of Directors has declared the following dividends for the quarter ending December 31, 1958:

Class of Stock	Dividend Per Share
4.08% Cumulative Preferred	$1.02
4.18% Cumulative Preferred	1.045
4.30% Cumulative Preferred	1.075
5.05% Cumulative Preferred	1.2625
$1.40 Dividend Preference	.35
Common	.45

All dividends are payable on or before December 22, 1958 to stockholders of record November 28, 1958.

F. MILTON LUDLOW
Secretary

NJ PUBLIC SERVICE
CROSSROADS OF THE EAST

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INTERNATIONAL HARVESTER COMPANY

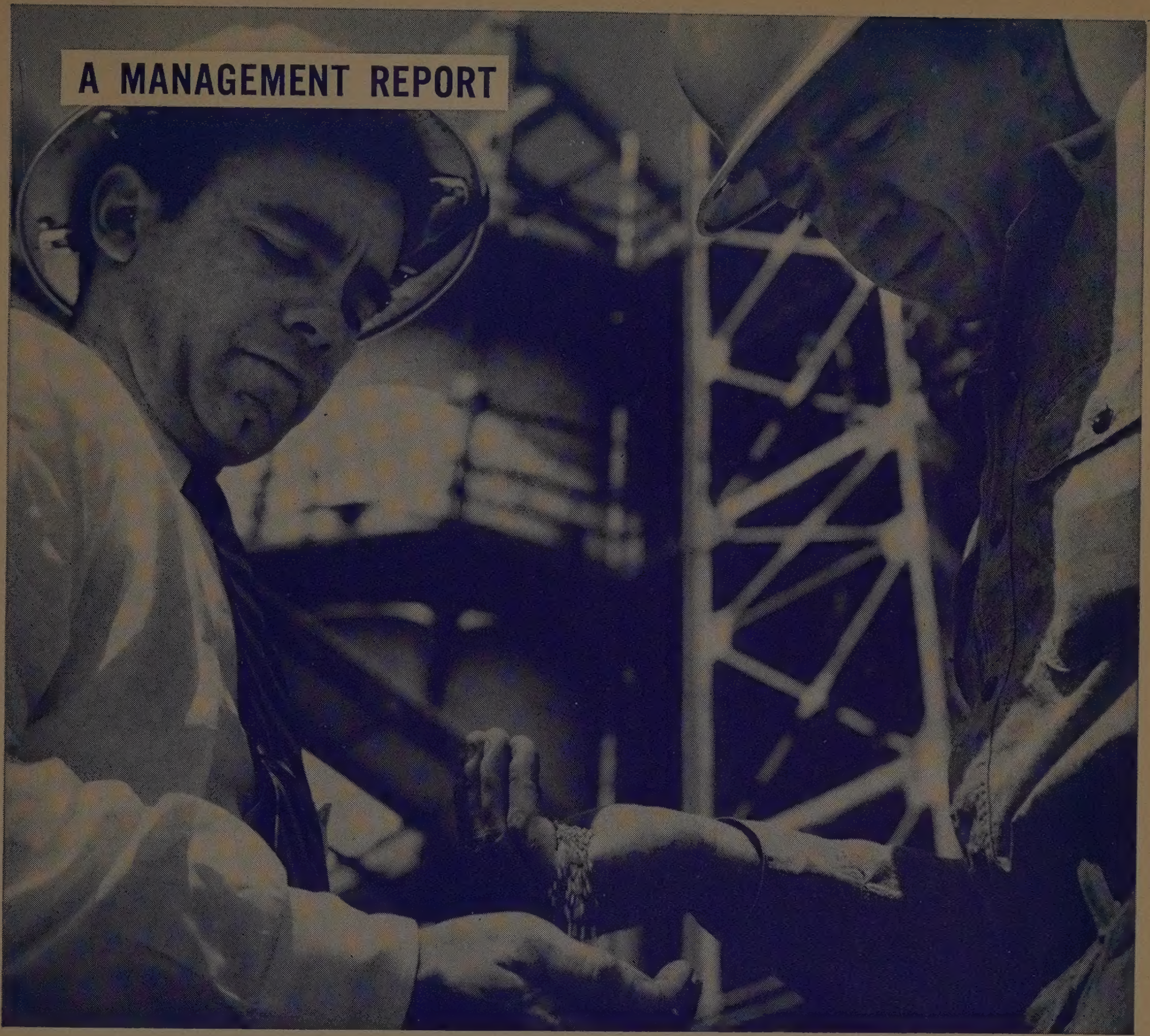
The Directors of International Harvester Company have declared quarterly dividend No. 161 of one dollar and seventy-five cents ($1.75) per share on the preferred stock, payable December 1, 1958, to stockholders of record at the close of business on November 5, 1958.

GERARD J. EGER, Secretary

INTERNATIONAL HARVESTER COMPANY

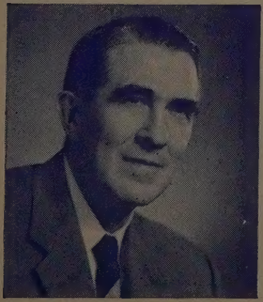
The Directors of International Harvester Company have declared quarterly dividend No. 175 of fifty cents (50¢) per share on the common stock, payable January 15, 1959, to stockholders of record at the close of business on December 15, 1958.

GERARD J. EGER, Secretary



A MANAGEMENT REPORT

Why Refiners Put Their Money on Sinclair



by T. B. KIMBALL
President
SINCLAIR REFINING COMPANY
a subsidiary of

"The best evaluation of a new refining development is found in what other refiners think of it. By that critical standard, the Sinclair-Baker platinum catalyst is an *outstanding tool for making high octane gasoline*. This reforming catalyst has been evaluated by sharp-pencil refinery engineers and judged by many to be the most efficient. Developed by Sinclair research, with the Baker Division of Engelhard Industries—platinum specialists, the catalyst is now used for more than 22 per cent of all domestic "cat" reforming. A number of foreign refineries also use it. We think this "dollars and cents" testimony by men who know refining best indicates the *high quality of Sinclair's research and processing technology.*"

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To a weatherman, this means smoke

To a mapmaker, this means a culvert dam

But this always means a growth company in a growth industry

TEXAS

GAS

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Texas Gas transports natural gas to distributing companies and industries located in the ever expanding Ohio and Mississippi river valleys. Industries, investors and business leaders are urged to keep an eye on Texas Gas and its vital service area.

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